

TOSHIBA

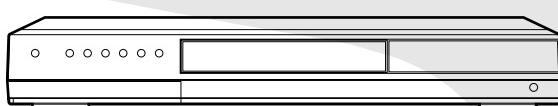
FILE NO. 810-200512

SERVICE MANUAL



HDD/DVD VIDEO RECORDER

RD-XS34SB
RD-XS34SF
RD-XS34SG



LASER BEAM CAUTION LABEL



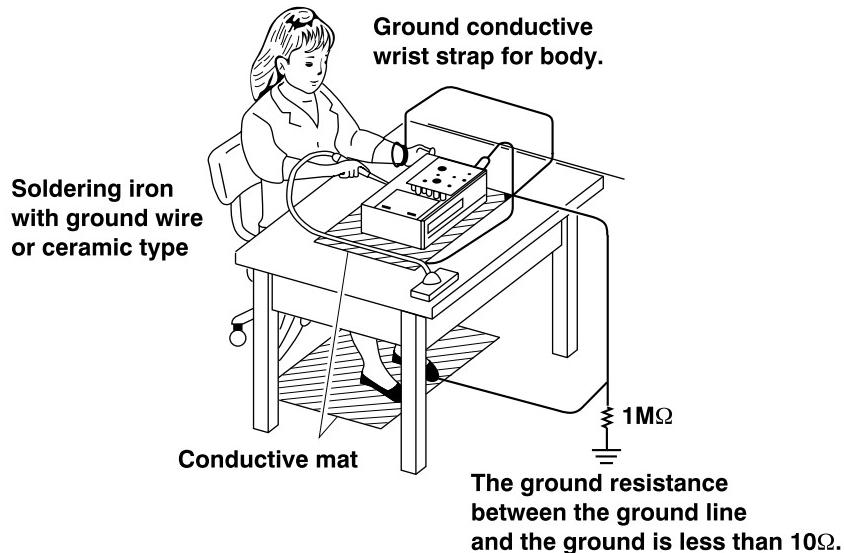
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of a laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



- Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
- "DTS" and "DTS Digital Out" are trademarks of Digital Theater Systems, Inc.
- Manufactured under license from QSound Labs, Inc. U.S. patent Nos. 5,105,462, 5,208,860 and 5,440,638 and various foreign counterpart. Copyright QSound Labs, Inc. 1998-2002. QXpander™ is a trademark of QSound Labs, Inc. All rights reserved.
- VideoPlus and VideoPlus Deluxe are the trademarks of Gemstar Europe, Ltd.

CONTENTS

SECTION 1 GENERAL DESCRIPTIONS

- | | |
|----------------------------------|----------------------------------|
| 1. OPERATING INSTRUCTIONS | 2. LOCATION OF MAIN PARTS |
| | 2-1. Location of Main Parts |
| | 2-2. Location of PC Boards |
-

SECTION 2 PART REPLACEMENT AND ADJUSTMENT PROCEDURES

- | | |
|---|---|
| 1. REPLACEMENT OF MECHANICAL PARTS | 1-2. PC Board Replacement |
| 1-1. Cabinet Replacement | 1-2-1. Tuner Unit PC Board |
| 1-1-1. Top Cover | 1-2-2. Digital PC Board |
| 1-1-2. HDD | 1-2-3. Mother PC Board |
| 1-1-3. Front Panel | 1-2-4. Power PC Board |
| 1-1-4. RAM Drive | 1-2-5. Front (R), Front (L) and Front (Jack) PC Board |
| 1-1-5. Rear Panel | |
| 1-1-6. Fan | 2. WIRING CONNECTION DIAGRAM |

SECTION 3 SERVICING DIAGRAMS

- | | |
|---|--|
| 1. CIRCUIT SYMBOLS AND
SUPPLEMENTARY EXPLANATION | 4-3. Digital Circuit Diagram |
| 1-1. Precautions for Part Replacement | 4-3-1. Digital 1 Circuit Diagram |
| 1-2. Solid Resistor Indication | 4-3-2. Digital 2 Circuit Diagram |
| 1-3. Capacitance Indication | 4-4. Mother Circuit Diagram |
| 1-4. Inductor Indication | 4-4-1. Tuner Interface Circuit Diagram |
| 1-5. Waveform and Voltage Measurement | 4-4-2. Timer Circuit Diagram |
| 1-6. Others | 4-4-3. Audio Circuit Diagram |
| 2. PRINTED WIRING BOARD AND
SCHEMATIC DIAGRAM | 4-4-4. Video Circuit Diagram |
| 3. BLOCK DIAGRAMS | 4-4-5. MSP Circuit Diagram |
| 3-1. Overall Block Diagram | 4-5. Tuner Unit Circuit Diagram |
| 4. CIRCUIT DIAGRAMS | 5. PC BOARDS |
| 4-1. Power Supply Circuit Diagram | 5-1. Front Jack PC Board |
| 4-2. Front Circuit Diagram | 5-2. Front (L) PC Board |
| 4-2-1. Front Jack Circuit Diagram | 5-3. Front (R) PC Board |
| 4-2-2. Front Circuit Diagram (L/R) | 5-4. Tuner Unit PC Board |
| | 5-5. Digital PC Board |
| | 5-6. Mother PC Board |

SECTION 4 PARTS LIST

SAFETY PRECAUTION
NOTICE
ABBREVIATIONS

- | |
|--------------------------|
| 1. EXPLODED VIEWS |
| 1-1. Packing Assembly |
| 1-2. Chassis Assembly |
| 2. PARTS LIST |

SECTION 1

GENERAL DESCRIPTIONS

1. OPERATING INSTRUCTIONS

Please refer to the owner's manual about the contents.

2. LOCATION OF MAIN PARTS

2-1. Location of Main Parts

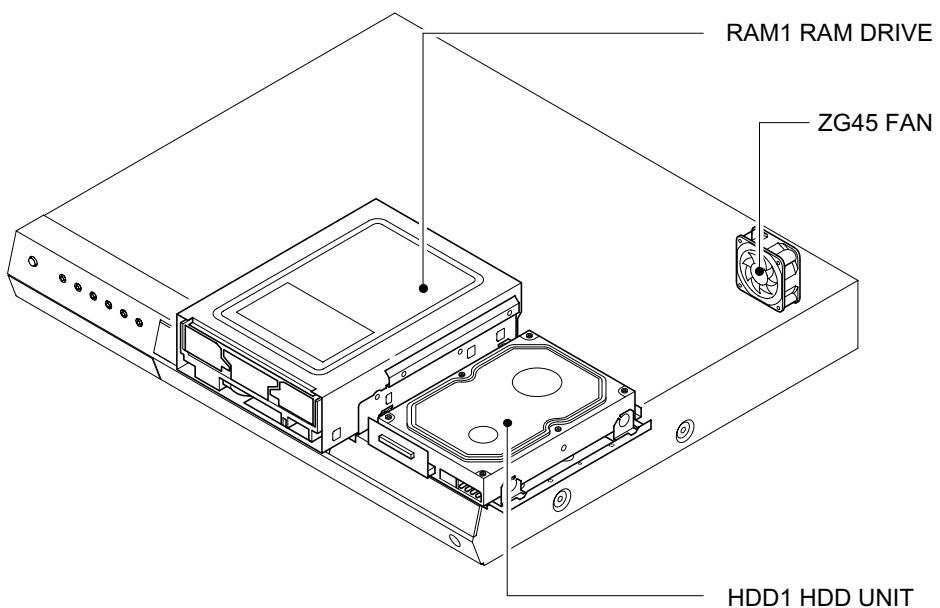


Fig. 1-2-1

2-2. Location of PC Boards

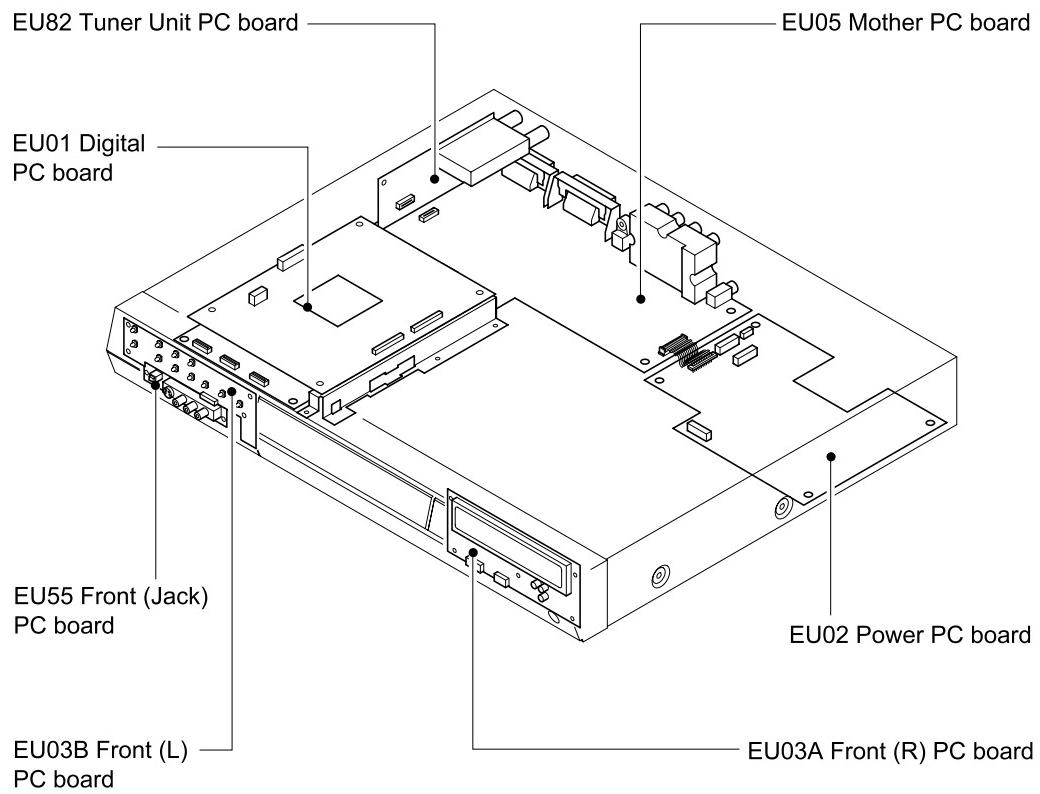


Fig. 1-2-2

SECTION 2

PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING PART REPLACEMENT

Electronic parts are susceptible to static electricity and may easily damaged, so do not forget to ground as required. Many screws are used inside the unit. To prevent the screws from missing or dropping, etc. always use a magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

1. REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Cover

1. Remove seven screws (1), then remove the top cover (2).

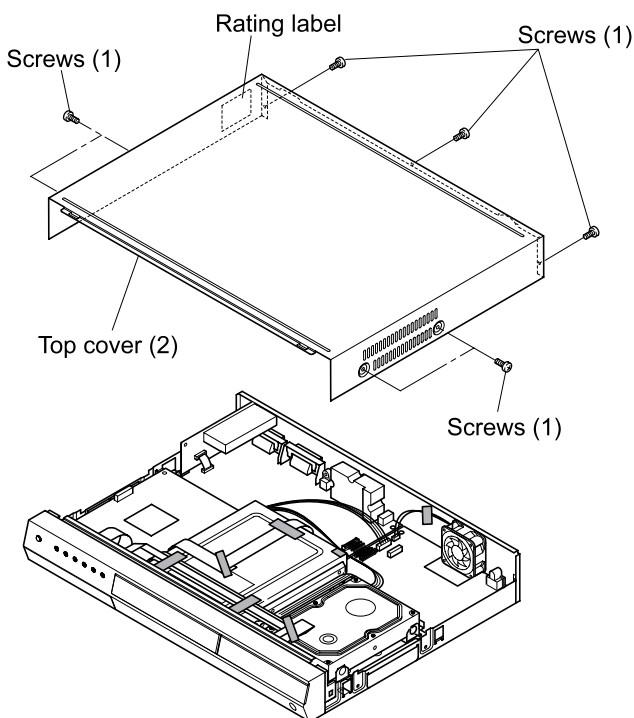


Fig. 2-1-1

Note:

There is a rating label applied on the top cover.

When the top cover is replaced with a new one, put a new rating label on the new top cover.

Transcribe the following items (Model No., serial No., power supply/power requirement etc.) described on the old rating label to the new rating label by using a permanent marker.

1-1-2. HDD

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove four screws (2).
4. Disconnect the flexible cable (3) and the connector (4).
5. Remove four screws (5) and four dampers (7), then remove the HDD (8).

Note:

- After replacing, attach the tape (1) to its original position.

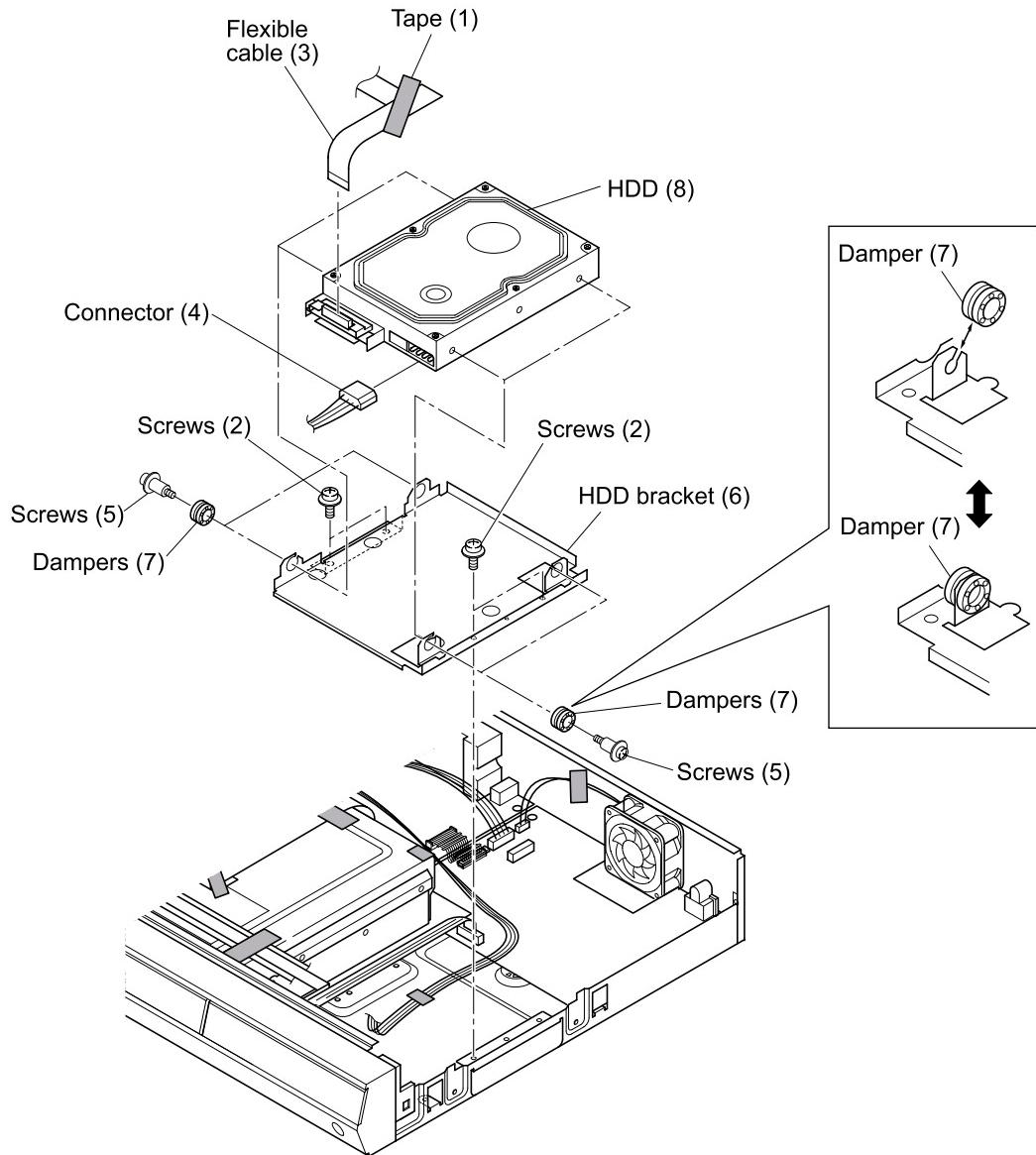


Fig. 2-1-2

1-1-3. Front Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off three tapes (1).
3. Disconnect two connectors (2) and two flexible cables (3).
4. Remove two screws (4) and four claws, then remove the front panel (5).

Note:

- After replacing, attach the tape (1) to its original position.

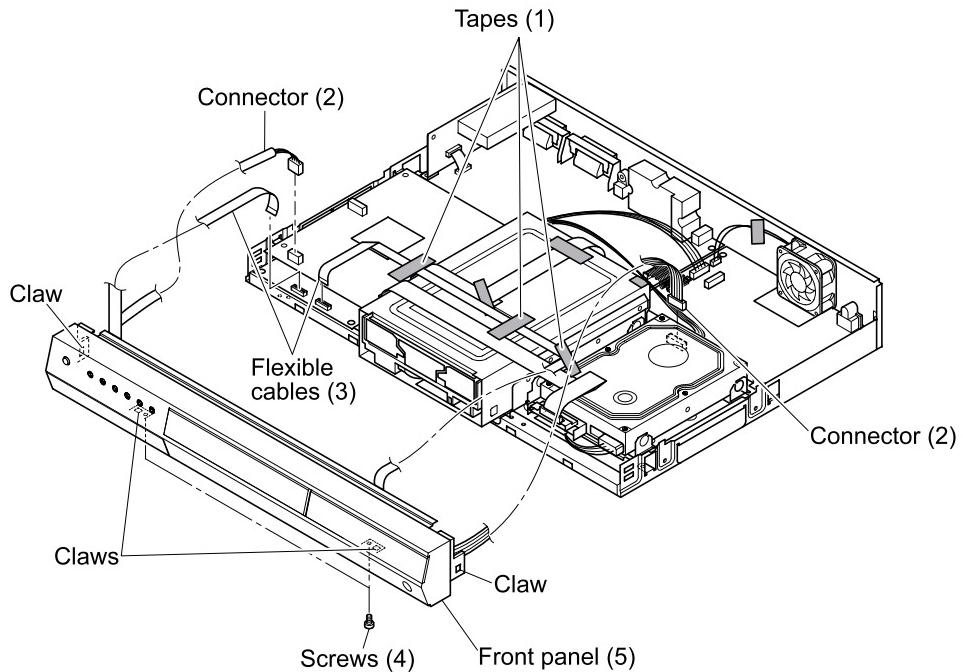


Fig. 2-1-3

1-1-4. RAM Drive

1. Remove the front panel. (Refer to item 1-1-3.)
2. Peel off three tapes (1).
3. Disconnect the flexible cable (2) and the connector (3).
4. Remove three screws (4), then remove the RAM drive (5).
5. Remove four screws (6), then remove the RAM drive bracket (7).

Note:

- After replacing, attach the tape (1) to its original position.

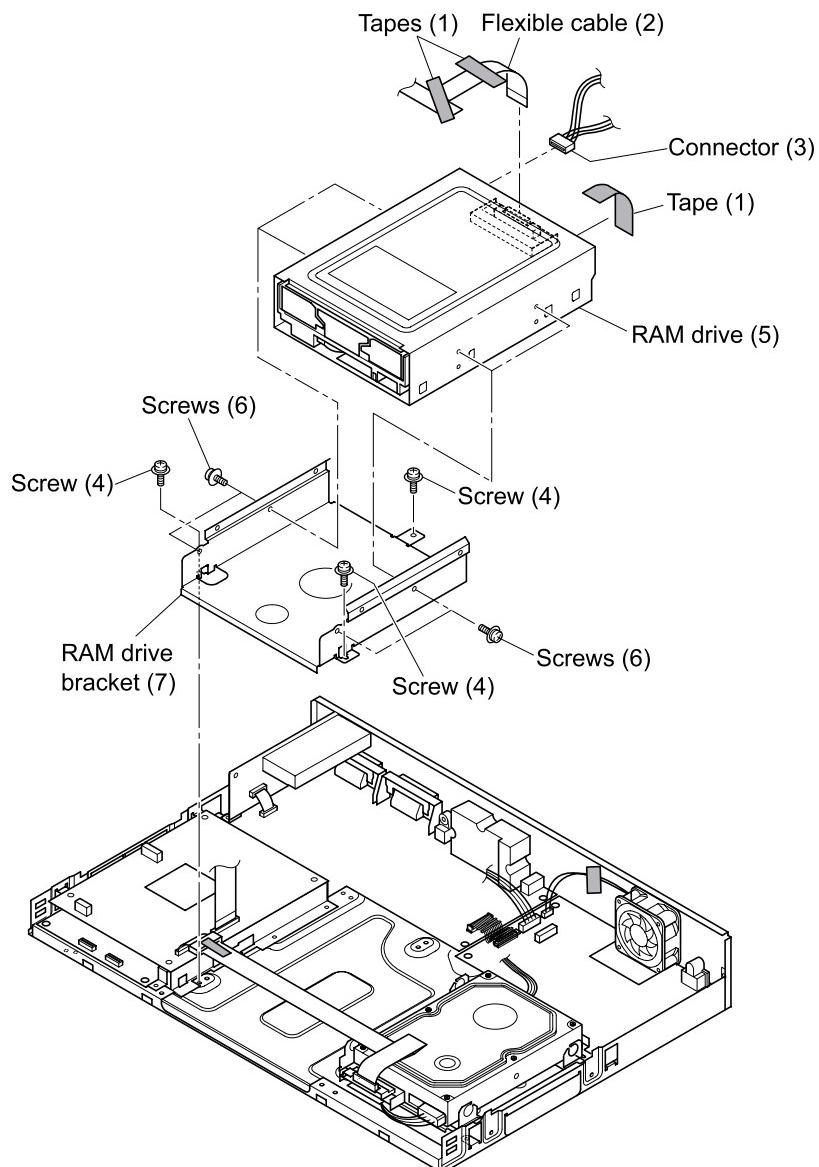


Fig. 2-1-4

1-1-5. Rear Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove the screw (2), four screws (3) and five screws (4).
4. Remove two claws, then remove the rear panel (5).
5. Remove two screws (6), then remove the fan (7).

Note:

- After replacing, attach the tape (1) to its original position.

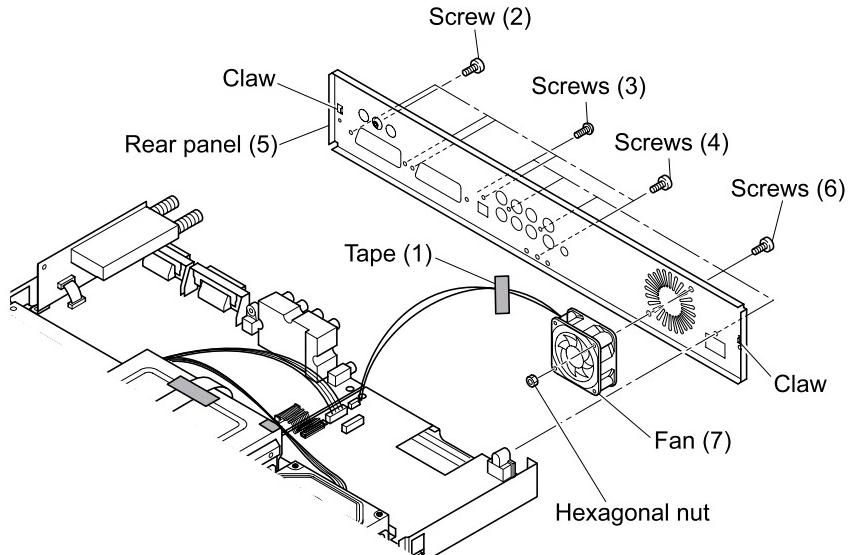


Fig. 2-1-5

1-1-6. Fan

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove the connector (2).
4. Remove two screws (3), then remove the fan (4).

Note:

- After replacing, attach the tape (1) to its original position.

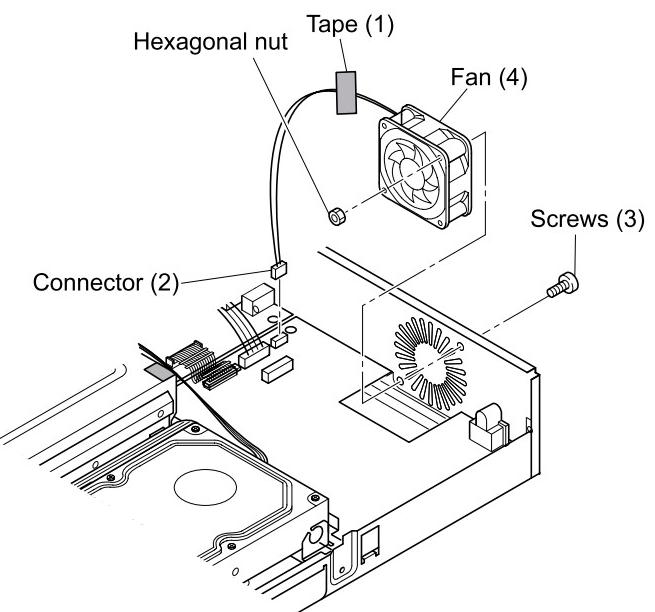


Fig. 2-1-6

1-2. PC Board Replacement

1-2-1. Tuner Unit PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the screw (1) and the screw (2).
3. Remove the claw, then remove the Tuner Unit PC board (3).
4. Disconnect the flexible cable (4).

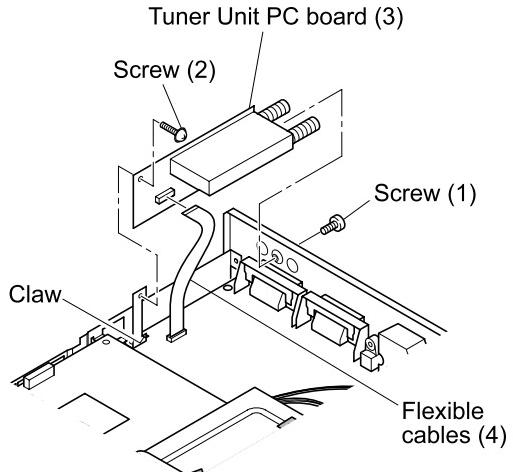


Fig. 2-1-7

1-2-2. Digital PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect two flexible cables (1) and the connector (2).
3. Remove four screws (3), then remove the Digital PC board (4).

Note:

- The Digital PC board (4) is connected to the Mother PC board (5) by three connectors (6). Take notice when removing.

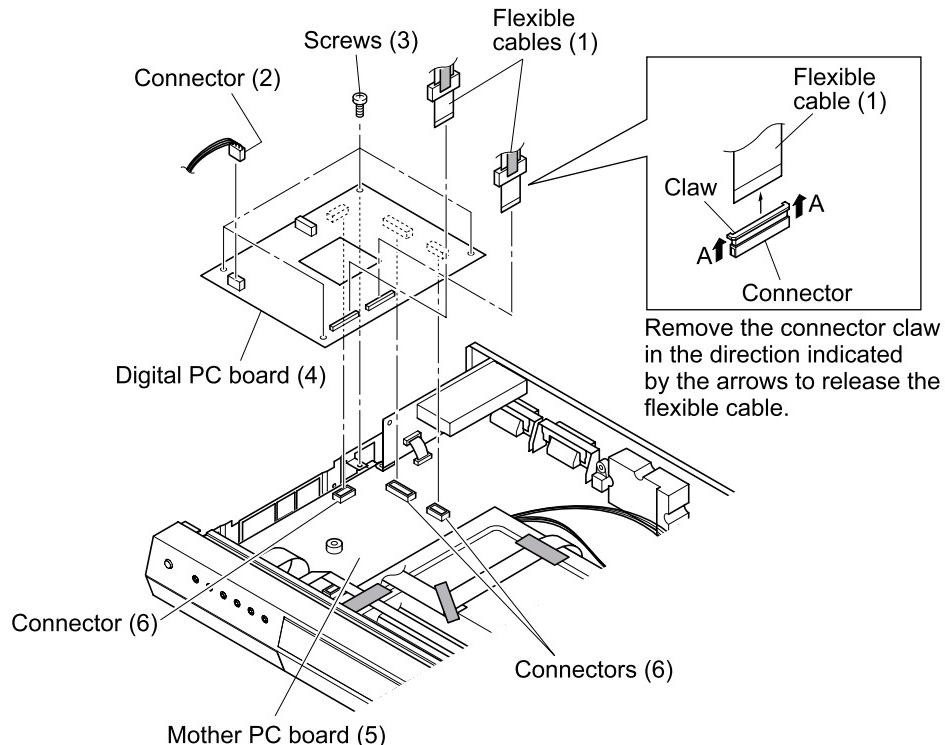


Fig. 2-1-8

1-2-3. Mother PC Board

1. Remove the Front panel. (Refer to item 1-1-3.)
2. Remove the Rear panel. (Refer to item 1-1-5.)
3. Remove the Tuner Unit PC board. (Refer to item 1-2-1.)
4. Remove the Digital PC board. (Refer to item 1-2-2.)
5. Disconnect the flexible cable (1) and the connector (2).
6. Remove six screws (3), then remove the Mother PC board (4).

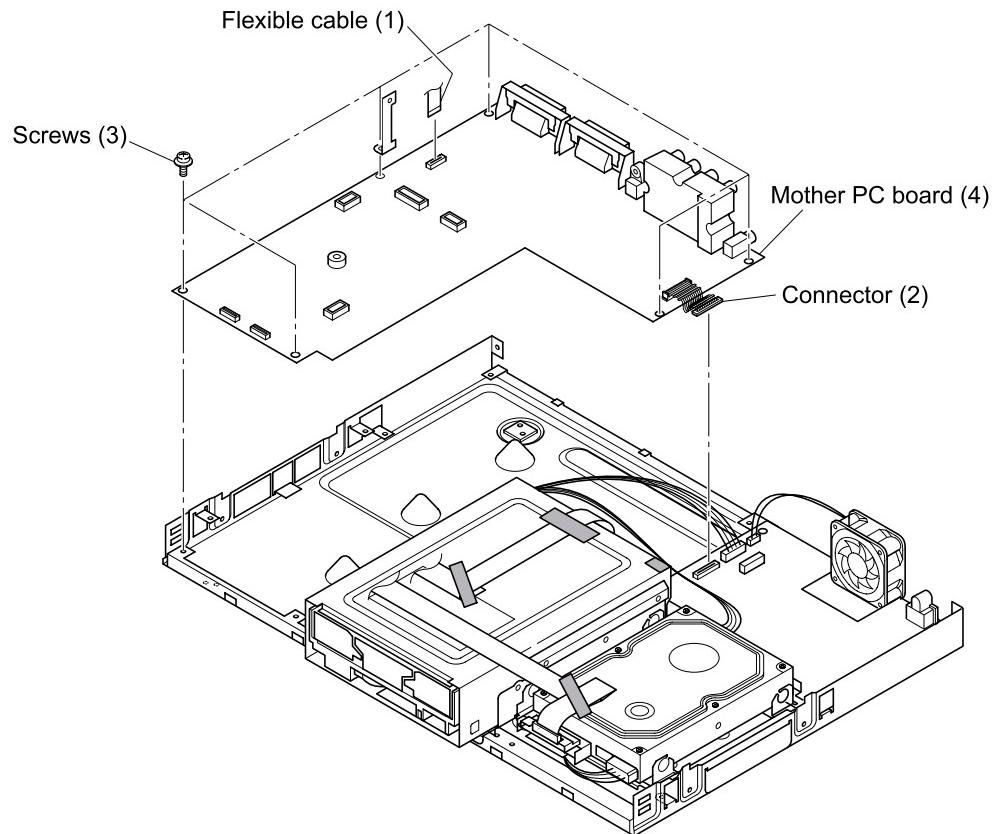


Fig. 2-1-9

1-2-4. Power PC Board

Cautions :

- Danger of explosion if battery is incorrectly replaced.

- Replace only with the same or equivalent type.

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect three connectors (1) and the connector (2).
3. Remove three screws (3) and the screw (4), then remove the Power PC board (5).

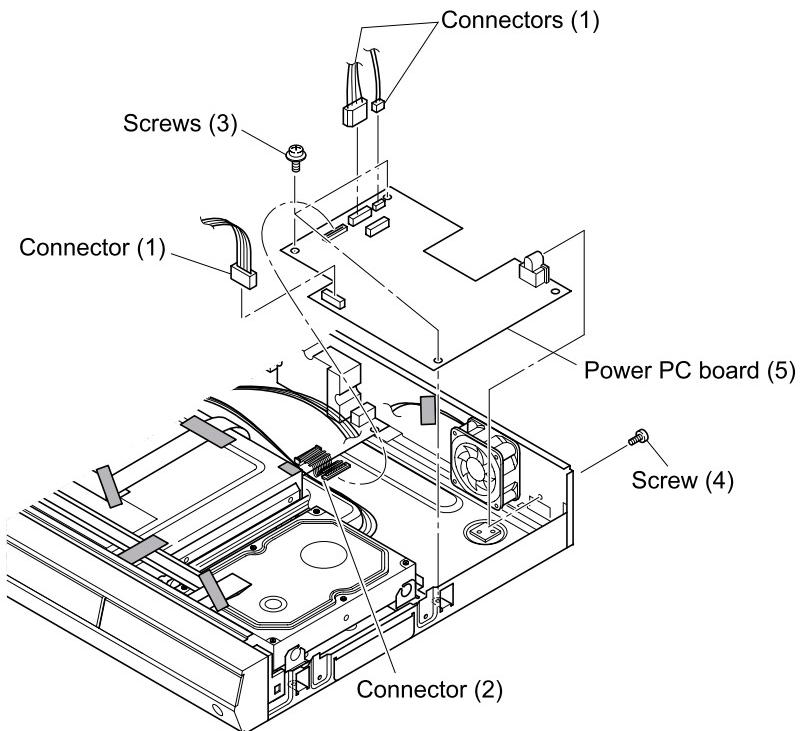


Fig. 2-1-10

1-2-5. Front (R), Front (L) and Front (Jack) PC Boards

1. Remove the front panel. (Refer to item 1-1-3.)
2. Peel off two tapes (1).
3. Remove four screws (2), then remove the stay (3).
4. Remove four screws (4), then remove the Front (R) PC board (5).
5. Remove two screws (6), then remove the Front (Jack) PC board (7).
6. Remove four screws (8), then remove the Front (L) PC board (9).

Note:

- After replacing, attach the tape (1) to its original position.

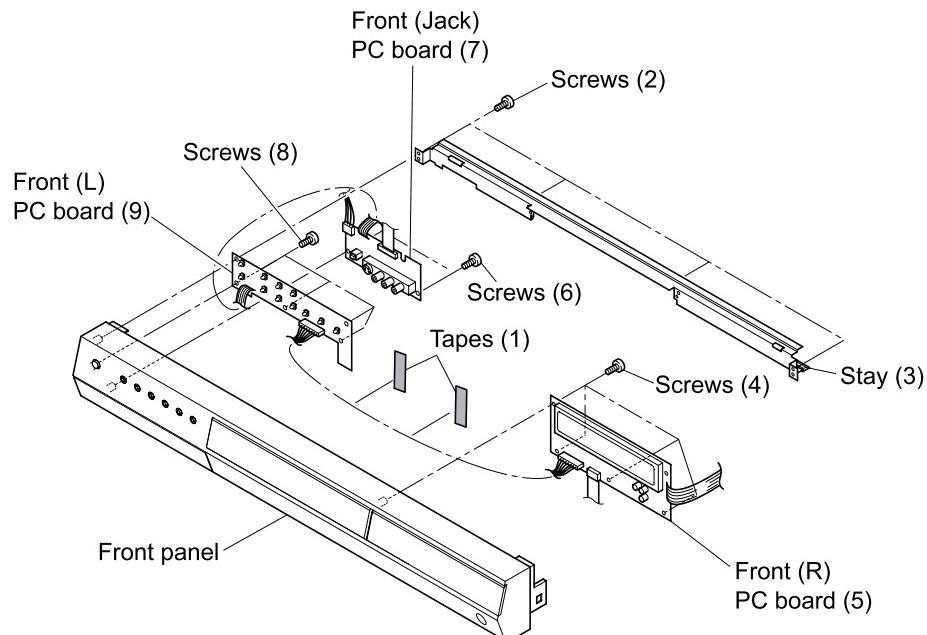


Fig. 2-1-11

Note:

- Fasten with the tape, taking care so that the wire does not hang over the tray door.

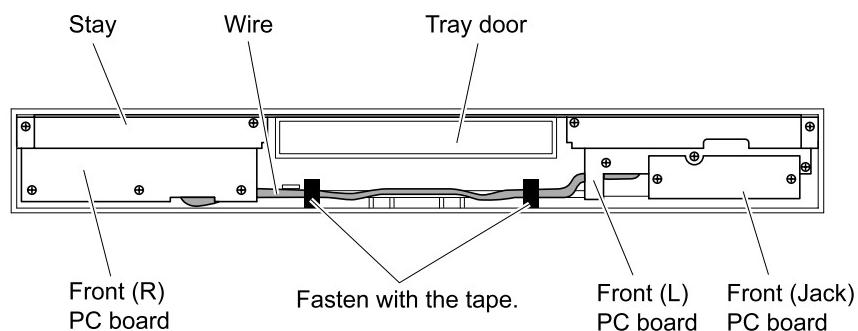
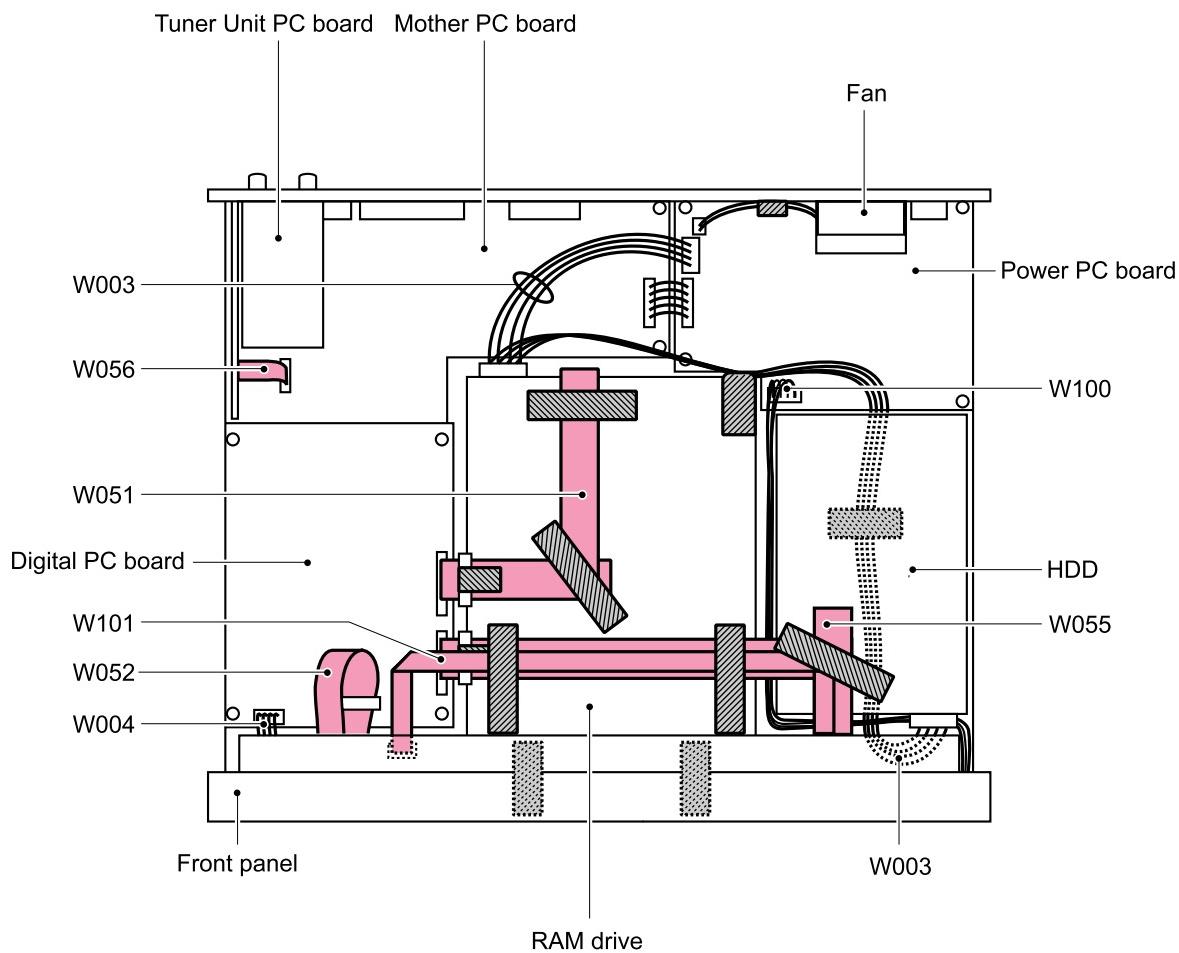


Fig. 2-1-12

2. WIRING CONNECTION DIAGRAM

After the servicing is complete, return the wiring to its original state by using the diagram below as a reference.



: Tape
 : Flexible cable

Fig. 2-2-1

SECTION 4

PARTS LIST

SAFETY PRECAUTION

The parts identified by ! (▲) mark are critical for safety. Replace only with part number specified.

The mounting position of replacement is to be identical with originals.

The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

ABBREVIATIONS

- **Integrated Circuit (IC)**
- **Capacitor (Cap)**
 - Capacitance Tolerance (for Nominal Capacitance more than 10pF)

Table 4-2-1

Symbol	B	C	D	F	G	J	K	M	N
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20	± 30

Symbol	P	Q	T	U	V	W	X	Y	Z
Tolerance %	+ 100 0	+ 30 - 10	+ 50 - 10	+ 75 - 10	+ 20 - 10	+ 100 - 10	+ 40 - 20	+ 150 - 10	+ 80 - 20

Ex. $10\mu\text{F} \text{ J} = 10\mu\text{F} \pm 5\%$

- Capacitance Tolerance (for Nominal Capacitance 10pF or less)

Table 4-2-2

Symbol	B	C	D	F	G
Tolerance pF	± 0.1	± 0.25	± 0.5	± 1	± 2

Ex. $10\text{pF} \text{ G} = 10\text{pF} \pm 2\text{pF}$

- **Resistor (Res)**

- Resistance tolerance

Table 4-3-1

Symbol	B	C	D	F	G	J	K	M
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20

Ex. $470\Omega \text{ J} = 470\Omega \pm 5\%$

1. EXPLODED VIEWS

1-1. Packing Assembly

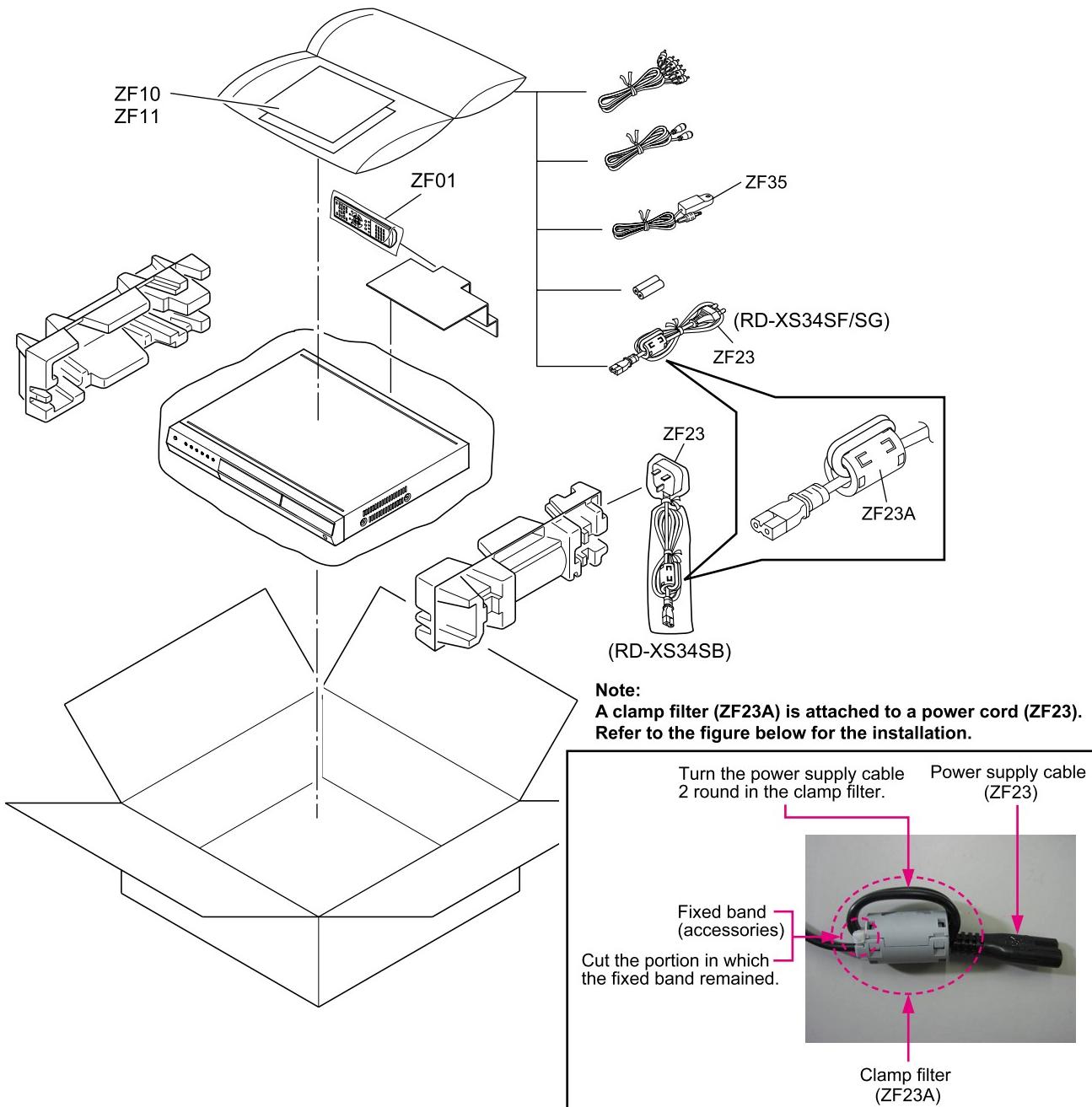


Fig. 4-4-1

1-2. Chassis Assembly

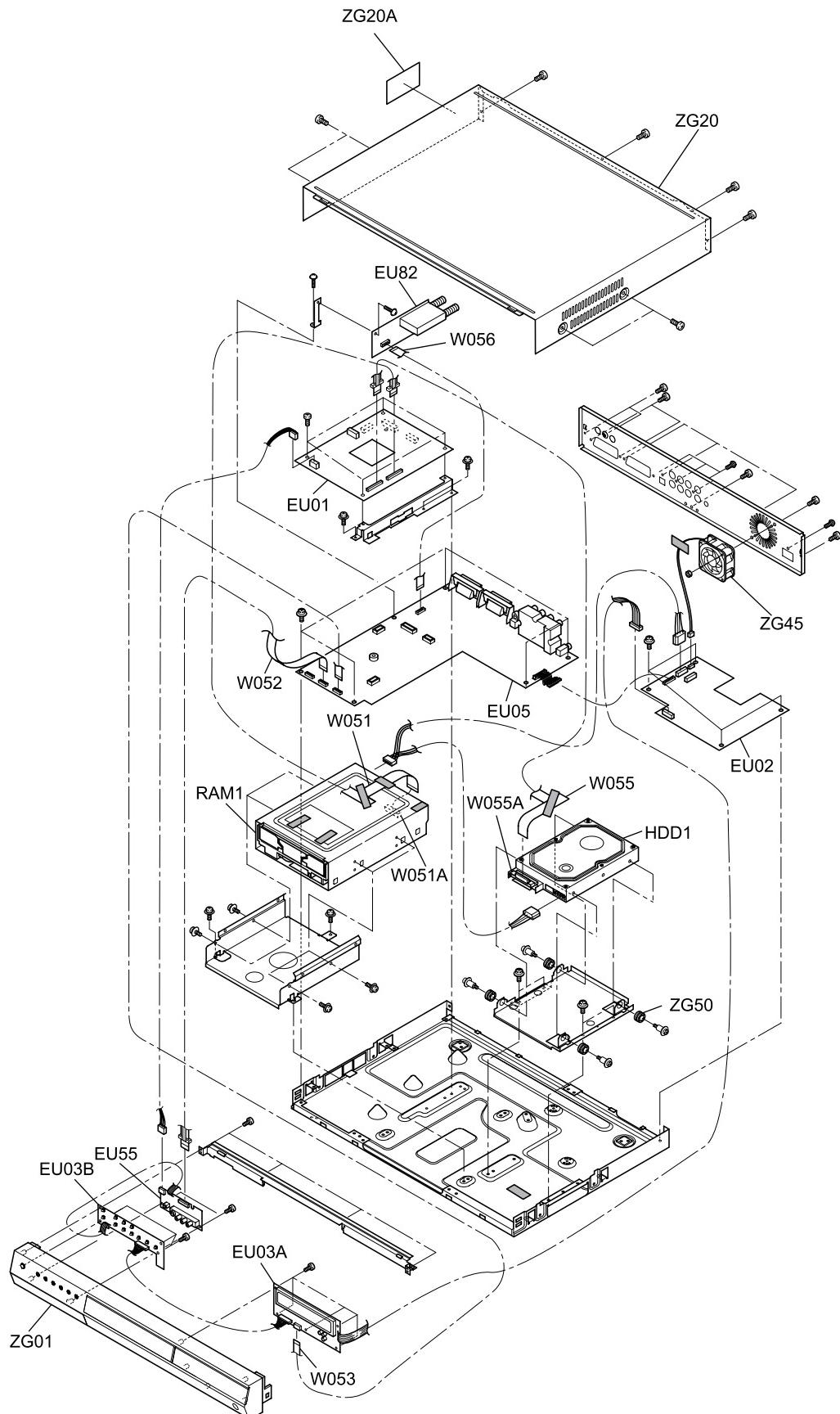


Fig. 4-4-2

2. PARTS LIST

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

Location No.	Part No.	Description
- MECHANICAL PARTS -		
HDD1	P000428190	HDD,ST3160022ACECS 160GB
! RAM1	P000432490	DVD-RAM SW-9573-ETS
W051	P000433820	Cable,Flexible FFC,40P,L280
W051A	P000391300	CONV Unit,ATAPI-FFC
W052	P000435000	Cable,Flexible FFC,18P,L120
W053	P000434990	Cable,Flexible FFC,7P,L400
W055	P000387340	Cable,Flexible FFC,40P,L360
W055A	P000391300	CONV Unit,ATAPI-FFC
W056	P000435030	Cable,Flexible FFC,13P,L70
a ZF01	P000405140	Remote Control UnitSE-R0132,RD-XS34SB
b,c ZF01	P000405350	Remote Control UnitSE-R0133,RD-XS34SG/F
a ! ZF10A	P000422540	Owners Manual,ST English,RD-XS34SB
a ! ZF10B	P000422550	Owners Manual,OP English,RD-XS34SB
a ! ZF10C	P000422560	Owners Manual,Quick,English,RD-XS34SB
b ! ZF10D	P000422860	Owners Manual,Quick,English,RD-XS34SF
b ! ZF10G	P000422570	Owners Manual,ST English,RD-XS34SF
b ! ZF10I	P000422580	Owners Manual,OP English,RD-XS34SF
b ! ZF10K	P000422590	Owners Manual,ST French,RD-XS34SF
b ! ZF11A	P000422600	Owners Manual,OP French,RD-XS34SF
c ! ZF10E	P000422870	Owners Manual,Quick,English,RD-XS34SG
c ! ZF11B	P000422610	Owners Manual,ST English,RD-XS34SG
c ! ZF11C	P000422620	Owners Manual,OP English,RD-XS34SG
c ! ZF11D	P000422630	Owners Manual,ST German,RD-XS34SG
c ! ZF11E	P000422640	Owners Manual,OP German,RD-XS34SG
c ! ZF11G	P000422650	Owners Manual,ST Spanish,RD-XS34SG
c ! ZF11I	P000422660	Owners Manual,OP Spanish,RD-XS34SG
a ! ZF23	79088034	Power Cord,UK
b,c ! ZF23	79088010	Power Cord,TE
ZF23A	P000440210	FILTER, ZCAT2132-1130
ZF35	P000401300	IR-Blaster RWS1000-0052L
a ZG01	P000435020	Panel Assy,Front RD-XS34SB
b,c ZG01	P000435090	Panel Assy,Front RD-XS34SG/F
ZG20	P000432500	Cover,Top
a ZG20A	P000438110	Rating Label RD-XS34SB
b,c ZG20A	P000438120	Rating Label RD-XS34SG/F
ZG45	P000401260	Fan,DC 5025LL12SND2
ZG50	P000438100	Damper

Note:

- There is a rating label (ZG20A) applied on the top cover (ZG20). When the top cover is replaced with a new one, put a new rating label on the new top cover. Transcribe the following items (Model No., serial No., power supply/power requirement etc.) described on the old rating label to the new rating label by using a permanent marker.
- A clamp filter (ZF23A) is attached to a power cord (ZF23). When replacing the power cord, install the clamp filter.

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

Location No.	Part No.	Description	
- ELECTRICAL PARTS -			
a EU01	P000435040	PC Board Assy	Digital, RD-XS34SB
b EU01	P000435100	PC Board Assy	Digital, RD-XS34SF
c EU01	P000435120	PC Board Assy	Digital, RD-XS34SG
- INTEGRATED CIRCUITS -			
IC302	P000377900	IC	MM1563DFBE
IC303	79040399	IC	MM1561JFBE
IC500	P000391280	IC	PQ070XZ01ZPH
IC502	P000405070	IC	UPD72893
IC503	79040163	IC	MT48LC1M16A1TG
IC504	P000391230	IC	UPD72852AGB-8EU
IC510	P000378050	IC	SN74AHC1G04HDCKR
IC513	P000391280	IC	PQ070XZ01ZPH
IC515	P000391210	IC	K4H560838D-TCB000
IC516	P000391210	IC	K4H560838D-TCB000
IC517	P000378040	IC	SN74AHC1G08HDCKR
IC519	79040306	IC	PST594JMT
IC520	P000391210	IC	K4H560838D-TCB000
IC521	P000391210	IC	K4H560838D-TCB000
IC523	P000377920	IC	SN74LV244APWR
IC527	P000391290	IC	PQ1X331M2ZPH
IC528	P000391240	IC	NJM2125F
IC529	P000378050	IC	SN74AHC1G04HDCKR
IC531	P000377900	IC	MM1563DFBE
IC539	P000401220	IC	BU3081FV-E2
- TRANSISTORS -			
Q301	79050016	Transistor, Chip	2SC2712-Y
Q302	79050016	Transistor, Chip	2SC2712-Y
Q303	79050016	Transistor, Chip	2SC2712-Y
Q304	79050016	Transistor, Chip	2SC2712-Y
Q305	79050018	Transistor, Chip	2SA1162-Y
Q306	79050018	Transistor, Chip	2SA1162-Y
Q307	79050018	Transistor, Chip	2SA1162-Y
Q308	79050018	Transistor, Chip	2SA1162-Y
Q309	79050018	Transistor, Chip	2SA1162-Y
Q310	79050018	Transistor, Chip	2SA1162-Y
- DIODES -			
D301	79060019	Diode, Chip	1SS355
D302	79060019	Diode, Chip	1SS355
- MISCELLANEOUS -			
X301	79089168	Oscillator, Crystal	
X500	79089168	Oscillator, Crystal	
X501	P000377990	Crystal	27.0M
! EU02	P000435010	PC Board Assy	Power
EU03A	P000435050	PC Board Assy	Front(R)
- INTEGRATED CIRCUITS -			
IC101	P000377960	IC	BU2879AK
IC102	P000434980	Module, IR	GP1UM271RK0F
- DIODES -			
D106	79060022	Diode, Chip	1SS368
D117	79060022	Diode, Chip	1SS368
- MISCELLANEOUS -			
A100	P000416630	Display, FL	HNV-10SM38T
EU03B	P00043506	0 PC Board Assy	Front(L)
- TRANSISTORS -			
Q102	79050089	Transistor	RN2401
Q103	79050089	Transistor	RN2401

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

Location No.	Part No.	Description	
Q104	79050089	Transistor	RN2401
Q108	79050089	Transistor	RN2401
Q109	79050089	Transistor	RN2401
		- DIODES -	
D103	79060077	Diode,LED	SLA-360MT
D104	P000416670	Diode,LED	EL-3105-1VRT
		- MISCELLANEOUS -	
S100	P000391050	Switch,Tact	
S107	P000391050	Switch,Tact	
S109	P000391050	Switch,Tact	
S112	P000391050	Switch,Tact	
S113	P000391050	Switch,Tact	
S114	P000391050	Switch,Tact	
S115	P000391050	Switch,Tact	
a	EU05	P000435070	PC Board Assy Mother,RD-XS34SB
b	EU05	P000435110	PC Board Assy Mother,RD-XS34SF
c	EU05	P000435130	PC Board Assy Mother,RD-XS34SG
		- INTEGRATED CIRCUITS -	
IC701	P000391180	IC	PST3222NR
IC702	P000391150	IC	DC74HCT125M
IC703	P000395140	IC	LC74793
IC704	P000405040	IC	BU4S11G2-TR
IC705	P000405030	IC	BU4S81G2-TR
IC706	P000405050	IC	BU4S69G2-TR
IC707	P000405050	IC	BU4S69G2-TR
IC901	P000416760	IC	PCM1851PJT
IC903	79040044	IC	NJM4580E
IC904	79040397	IC	MM1575ANRE
IC906	P000416650	IC,Terminal,OPT	LAF1001-0301F
ICB10	P000395150	IC	MM1565AFBE
ICM01	P000378240	IC	MSP3417G
ICM02	P000395160	IC	PQ05DZ1UJ00H
ICW01	P000378260	IC	MM1506XNRE
ICW02	P000378260	IC	MM1506XNRE
ICW03	P000378260	IC	MM1506XNRE
ICW04	P000378270	IC	MM1508XNRE
ICW05	P000405020	IC	TC7W53FU
ICW06	P000405020	IC	TC7W53FU
ICX01	79040382	IC	MM1140XFBE
ICX02	P000391260	IC	MM1568DJBEG
ICX03	P000405080	IC	XC6209
ICX04	P000395150	IC	MM1565AFBE
ICX05	P000391260	IC	MM1568DJBEG
ICX06	79040369	IC	MM1113XFBE
b,c	ICZ01	79040381	IC
b,c	ICZ02	P000378270	MM1508XNRE
		- TRANSISTORS -	
Q700	79050016	Transistor,Chip	2SC2712-Y
Q703	79050018	Transistor,Chip	2SA1162-Y
Q901	79050014	Transistor,Chip	HN1C03F
Q902	79050014	Transistor,Chip	HN1C03F
Q903	79050014	Transistor,Chip	HN1C03F
Q904	79050001	Transistor,Chip	RN2402
Q905	79050001	Transistor,Chip	RN2402
Q906	79050043	Transistor,Chip	RN1402
Q907	79050043	Transistor,Chip	RN1402
b,c	Q908	79050043	Transistor,Chip
b,c	Q909	79050043	Transistor,Chip
b,c	Q910	79050043	Transistor,Chip
Q911	79050016	Transistor,Chip	2SC2712-Y
Q912	79050018	Transistor,Chip	2SA1162-Y
QB02	79050018	Transistor,Chip	2SA1162-Y
QB04	79050018	Transistor,Chip	2SA1162-Y

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

Location No.	Part No.	Description	
QB21	P000395120	Transistor,Chip	2SC2714-Y
QW01	79050016	Transistor,Chip	2SC2712-Y
QW02	79050043	Transistor,Chip	RN1402
QW03	79050016	Transistor,Chip	2SC2712-Y
QW04	79050016	Transistor,Chip	2SC2712-Y
QW05	79050016	Transistor,Chip	2SC2712-Y
QW06	79050001	Transistor,Chip	RN2402
QW08	79050016	Transistor,Chip	2SC2712-Y
QW10	79050016	Transistor,Chip	2SC2712-Y
QW11	79050043	Transistor,Chip	RN1402
QX01	79050016	Transistor,Chip	2SC2712-Y
QX02	79050018	Transistor,Chip	2SA1162-Y
QX03	79050018	Transistor,Chip	2SA1162-Y
QX04	79050043	Transistor,Chip	RN1402
QX05	79050018	Transistor,Chip	2SA1162-Y
QX06	79050018	Transistor,Chip	2SA1162-Y
QX07	79050043	Transistor,Chip	RN1402
QX08	79050043	Transistor,Chip	RN1402
b,c	QZ01	Transistor,Chip	2SA1162-Y - DIODES -
D701	79060019	Diode,Chip	1SS355
D702	79060028	Diode,Chip	1SS226
D704	79060019	Diode,Chip	1SS355
D901	79060019	Diode,Chip	1SS355
D902	79060019	Diode,Chip	1SS355
D904	79060019	Diode,Chip	1SS355
DB01	79060096	Diode,Zener	MTZJT-7733D
DM01	79060019	Diode,Chip	1SS355
DW01	79060028	Diode,Chip	1SS226
DW03	79060028	Diode,Chip	1SS226
DW04	79060019	Diode,Chip	1SS355
DW05	79060028	Diode,Chip	1SS226
DW06	79060028	Diode,Chip	1SS226
DW07	79060028	Diode,Chip	1SS226
DW08	79060019	Diode,Chip	1SS355
DW09	79060028	Diode,Chip	1SS226
DW10	79060028	Diode,Chip	1SS226
DW11	79060028	Diode,Chip	1SS226
DW12	79060028	Diode,Chip	1SS226
DW13	79060028	Diode,Chip	1SS226
DW14	79060028	Diode,Chip	1SS226
DW15	79060019	Diode,Chip	1SS355
DW16	79060028	Diode,Chip	1SS226
DW17	79060019	Diode,Chip	1SS355
DW19	79060019	Diode,Chip	1SS355
DW20	79060028	Diode,Chip	1SS226
DW21	79060028	Diode,Chip	1SS226
DW22	79060019	Diode,Chip	1SS355
DX01	79060028	Diode,Chip	1SS226
DX02	79060028	Diode,Chip	1SS226
DX03	79060028	Diode,Chip	1SS226
DX04	79060028	Diode,Chip	1SS226
DX05	79060028	Diode,Chip	1SS226
DX06	79060028	Diode,Chip	1SS226
DX07	79060028	Diode,Chip	1SS226
DX08	79060028	Diode,Chip	1SS226
DX09	79060028	Diode,Chip	1SS226
		- MISCELLANEOUS -	
B701	P000377950	Buzzer	PS1240P02AT
J701	P000416610	Jack,3.5	LGY2502-0200F
JX01	P000435170	Jack	LAP5100-1001F
JX02	P000434970	Connector,RGB	MRC-021V-29PC

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

Location No.	Part No.	Description	
	JX03	Connector ,RGB	MRC-021V-29PC
b,c	K901	Relay	ATX209
b,c	K902	Relay	ATX209
b,c	K903	Relay	ATX209
	X700	Crystal	
	X701	Oscillator, Crystal	
	X702	Resonator,Ceramic	FCR4.43MC5AT
	X703	Resonator,Ceramic	CSBLA500KEC8-BO
	XM01	Resonator,Ceramic	AT-41-18.432M
	EU55	PC Board Assy	Front Jack
		- MISCELLANEOUS -	
	J170	Jack,DV	
	J171	Jack,3P+1Y/C	
	EU82	PC Board Assy	Tuner
!	MB01	Tuner	TCPM0601PD15A

Specification

RD-XS34SB 1/2

■ Power requirement during operation

39W

■ Power requirement at standby

4.3W (Eco mode: off)

1.9W (Eco mode: on)

■ Power supply

230 - 240V AC, 50/60 Hz

■ Mass

5.2kg

■ External dimension

Width 430 x Height 58 x Depth 336mm

■ Tuner

System: Frequency synthesizer

Channel coverage: PAL I VHF: A-J, 11, 13, E2-E12

UHF: E21-E69

CATV: X, Y, Z, S1-S41, 1-53
(48MHz to 464MHz, 8MHz steps)

Stereo: NICAM-I

■ Antenna input/output terminal

VHF/UHF: 75Ω, IEC Connector

■ Signal system

Standard PAL Colour TV system

■ Laser

Semiconductor laser, Wavelength: 650nm/780nm

■ Format

DVD-VR format

DVD-Video format

■ Image recording system

MPEG2

■ Sound recording system

Dolby Digital M1, M2, Linear PCM

■ VIDEO input

1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
SCART socket x 2 at rear

■ VIDEO output

1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
SCART socket x 2 at rear

■ S-VIDEO input

(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear

■ S-VIDEO output

(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear

■ COMPONENT output (Y, P_B, P_R)

Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input

(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV2 only)

■ RGB output

(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV1 only)

■ AUDIO input

2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
SCART socket x 2 at rear

■ AUDIO output

2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
SCART socket x 2 at rear

RD-XS34SB 2/2

■ DIGITAL AUDIO OUTPUT

BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT

BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0132)

■ Operating conditions

Temperature: 5°C ~ 35°C,

Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

• Remote control	1
• Batteries (R03)	2
• Power cord	1
• Coaxial cable	1
• Video/Audio cable	1
• IR control cable	1
• OWNER'S MANUAL (INSTALLATION GUIDE)	1
• OWNER'S MANUAL (OPERATIONS)	1
• Quick Reference	1

- The design and specifications may change without prior notice.
- The illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

Specification

RD-XS34SF 1/2

■ Power requirement during operation

39W

■ Power requirement at standby

4.3W (Eco mode: off)

1.9W (Eco mode: on)

■ Power supply

230 - 240V AC, 50/60 Hz

■ Mass

5.2kg

■ External dimension

Width 430 x Height 58 x Depth 336mm

■ Tuner

System: Frequency synthesizer

Channel coverage:

SECAM L	VHF: FB, FC1, FC, F1-F6 UHF: E21-E69 CATV: B-Q, H1-H21, 1-18, 70-99
PAL B/G	VHF: A-H, E2-E12, M4-M10, SECAM B/G R1-R12, U1-U15 UHF: E21-E69 CATV: S1-S41, X, Y, Z, Z+1, Z+2
PAL D/K	VHF: A-H, E2-E12, M4-M10, SECAM D/K R1-R12, U1-U15 UHF: E21-E69 CATV: S1-S41, X, Y, Z, Z+1, Z+2

■ Aerial input/output terminal

VHF/UHF: 75Ω, IEC Connector

■ Signal system

Standard PAL/SECAM Colour TV system

■ Laser

Semiconductor laser, Wavelength: 650nm/780nm

■ Format

DVD-VR format
DVD-Video format

■ Image recording system

MPEG2

■ Sound recording system

Dolby Digital M1, M2, Linear PCM

■ VIDEO input

1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
PERITEL socket x 2 at rear

■ VIDEO output

1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
PERITEL socket x 2 at rear

■ S-VIDEO input

(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
PERITEL socket x 1 at rear

■ S-VIDEO output

(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
PERITEL socket x 1 at rear

■ COMPONENT output (Y, P_B, P_R)

Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input

(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
PERITEL socket x 1 at rear (AV2 only)

■ RGB output

(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
PERITEL socket x 1 at rear (AV1 only)

■ AUDIO input

2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
PERITEL socket x 2 at rear

■ AUDIO output

2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
PERITEL socket x 2 at rear

RD-XS34SF 2/2

■ DIGITAL AUDIO OUTPUT

BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT

BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0133)

■ Operating conditions

Temperature: 5°C ~ 35°C,

Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

- The design and specifications may change without prior notice.
- The illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

Specification

RD-XS34SG 1/2

■ Power requirement during operation

39W

■ Power requirement at standby

4.3W (Eco mode: off)

1.9W (Eco mode: on)

■ Power supply

230 - 240V AC, 50/60 Hz

■ Mass

5.2kg

■ External dimension

Width 430 x Height 58 x Depth 336mm

■ Tuner

System: Frequency synthesizer

Channel coverage:

PAL B/G	VHF: A-H, E2-E12, M4-M10,
SECAM B/G	R1-R12, U1-U5, 0-12, 5A, 9A
	UHF: E21-E69, 28-69
	CATV: S1-S41, X, Y, Z, Z+1, Z+2
PAL D/K	VHF: A-H, E2-E12, M4-M10,
SECAM D/K	R1-R12, U1-U15
	UHF: E21-E69
	CATV: S1-S41, X, Y, Z, Z+1, Z+2
SECAM L	VHF: FB, FC1, FC, F1-F6
	UHF: E21-E69
	CATV: B-Q, H1-H21, 1-18, 70-99

■ Aerial input/output terminal

VHF/UHF: 75Ω, IEC Connector

■ Signal system

Standard PAL/SECAM Colour TV system

■ Laser

Semiconductor laser, Wavelength: 650nm/780nm

■ Format

DVD-VR format

DVD-Video format

■ Image recording system

MPEG2

■ Sound recording system

Dolby Digital M1, M2, Linear PCM

■ VIDEO input

1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
SCART socket x 2 at rear

■ VIDEO output

1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
SCART socket x 2 at rear

■ S-VIDEO input

(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear (AV2 only)

■ S-VIDEO output

(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear (AV1 only)

■ COMPONENT output (Y, P_B, P_R)

Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input

(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV2 only)

■ RGB output

(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV1 only)

■ AUDIO input

2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
SCART socket x 2 at rear

■ AUDIO output

2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
SCART socket x 2 at rear

RD-XS34SG 2/2

■ DIGITAL AUDIO OUTPUT

BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT

BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0133)

■ Operating conditions

Temperature: 5°C ~ 35°C,

Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

- The design and specifications may change without prior notice.
- The illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

TOSHIBA CORPORATION

1 1, SHIBAURA 1 CHOME, MINATO KU, TOKYO 105 8001, JAPAN

TOSHIBA

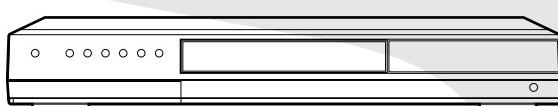
FILE NO. 810-200512

SERVICE MANUAL



HDD/DVD VIDEO RECORDER

RD-XS34SB
RD-XS34SF
RD-XS34SG



SECTION 3

SERVICING DIAGRAMS

1. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION

1-1. Precautions for Part Replacement

- In the schematic diagram, parts marked \triangle (ex. \triangle F801) are critical part to meet the safety regulations, so always use the parts bearing specified part codes (SN) when replacing them.
- Using the parts other than those specified shall violate the regulations, and may cause troubles such as operation failures, fire etc.

1-2. Solid Resistor Indication

Unit	None Ω K $k\Omega$ M $M\Omega$
Tolerance	None $\pm 5\%$ B $\pm 0.1\%$ C $\pm 0.25\%$ D $\pm 0.5\%$ F $\pm 1\%$ G $\pm 2\%$ K $\pm 10\%$ M $\pm 20\%$
Rated Wattage	(1) Chip Parts None 1/16W (2) Other Parts None 1/6W Other than above, described in the Circuit Diagram.
Type	None Carbon film S Solid R Oxide metal film M Metal film W Cement FR Fusible

Eg. 1

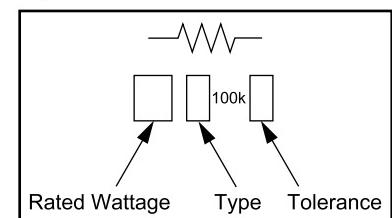


Fig. 3-1-1

1-3. Capacitance Indication

Symbol	$\begin{array}{c} + \\ \diagup \\ \diagdown \\ NP \end{array}$ Electrolytic, Special electrolytic $\begin{array}{c} \diagup \\ \diagdown \\ NP \end{array}$ Non polarity electrolytic $\begin{array}{c} + \\ \\ - \end{array}$ Ceramic, plastic $\begin{array}{c} + \\ \\ M \end{array}$ Film $\begin{array}{c} + \\ \\ T \end{array}$ Trimmer
Unit	None F μ μF p pF
Rated voltage	None 50V For other than 50V and electrolytic capacitors, described in the Circuit Diagram.
Tolerance	(1) Ceramic, plastic, and film capacitors of which capacitance are more than 10 pF. None $\pm 5\%$ or more B $\pm 0.1\%$ C $\pm 0.25\%$ D $\pm 0.5\%$ F $\pm 1\%$ G $\pm 2\%$ (2) Ceramic, plastic, and film capacitors of which capacitance are 10 pF or less. None more than ± 5 pF B ± 0.1 pF C ± 0.25 pF (3) Electrolytic, Trimmer Tolerance is not described.
Temperature characteristic (Ceramic capacitor)	None SL For others, temperature characteristics are described. (For capacitors of 0.01 μF and no indications are described as F.)
Static electricity capacity (Ceramic capacitor)	Sometimes described with abbreviated letters as shown in Eg. 3.

Eg. 2

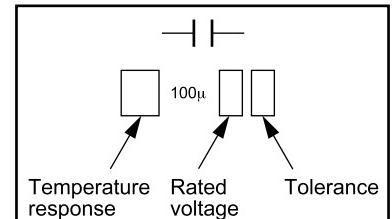


Fig. 3-1-2

Eg. 3

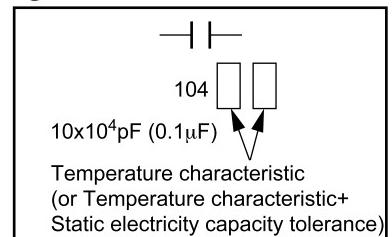


Fig. 3-1-3

1-4. Inductor Indication

Unit	None H μ μ H m mH
Tolerance	None $\pm 5\%$ B $\pm 0.1\%$ C $\pm 0.25\%$ D $\pm 0.5\%$ F $\pm 1\%$ G $\pm 2\%$ K $\pm 10\%$ M $\pm 20\%$

Eg. 4

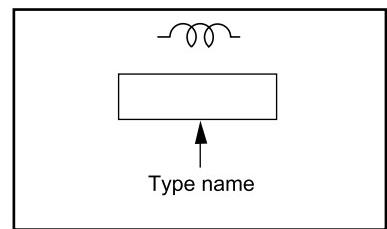


Fig. 3-1-4

1-5. Waveform and Voltage Measurement

- The waveforms for CD/DVD and RF shown in the circuit diagrams are obtained when a test disc is played back.
- All voltage values except the waveforms are expressed in DC and measured by a digital voltmeter.

1-6. Others

- The parts indicated with "NC" or "KETU" etc. are not used in the circuits of this model.

Eg. 5

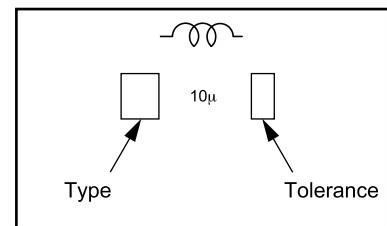
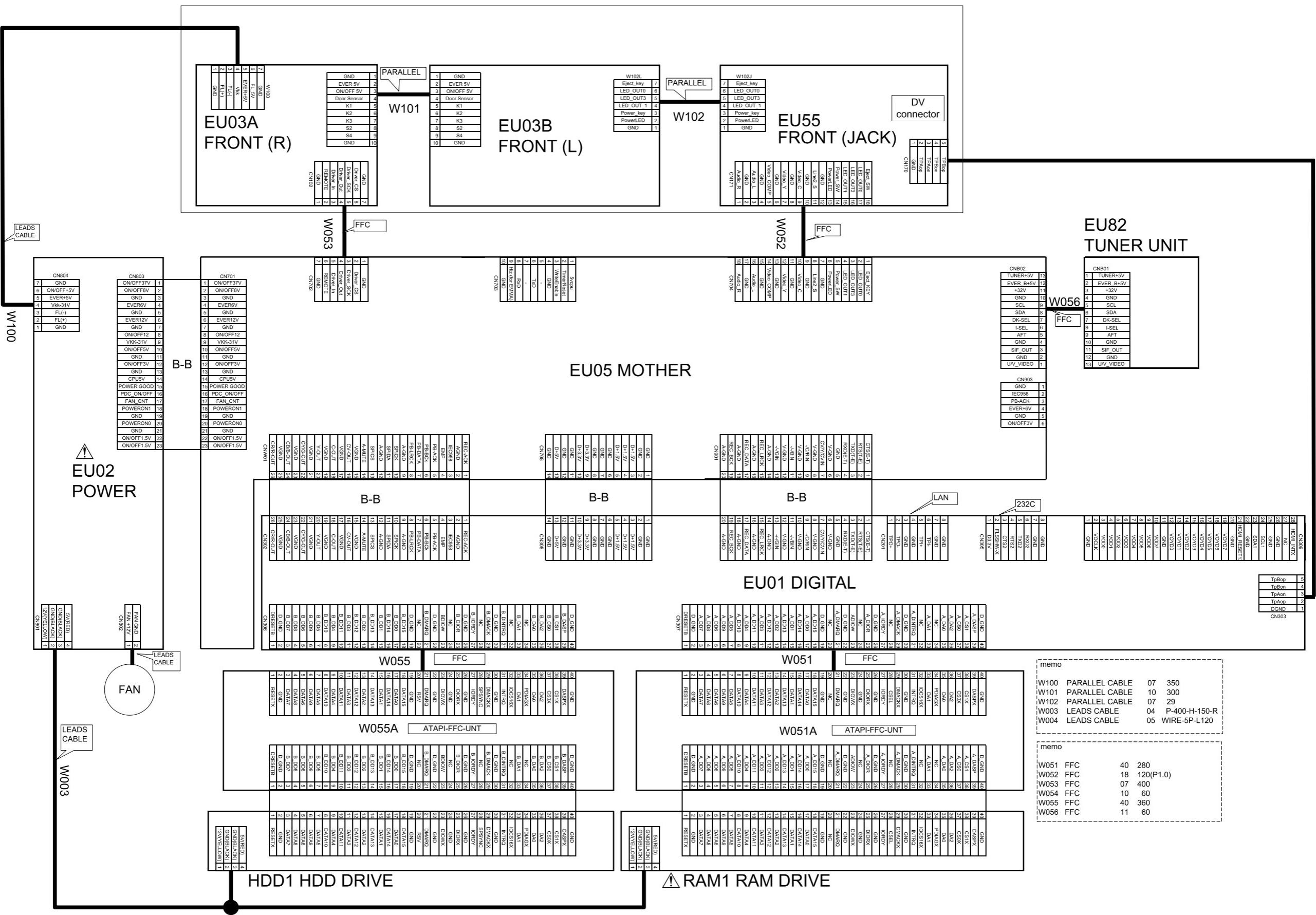


Fig. 3-1-5

2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM



3. BLOCK DIAGRAMS

3-1. Overall Block Diagram

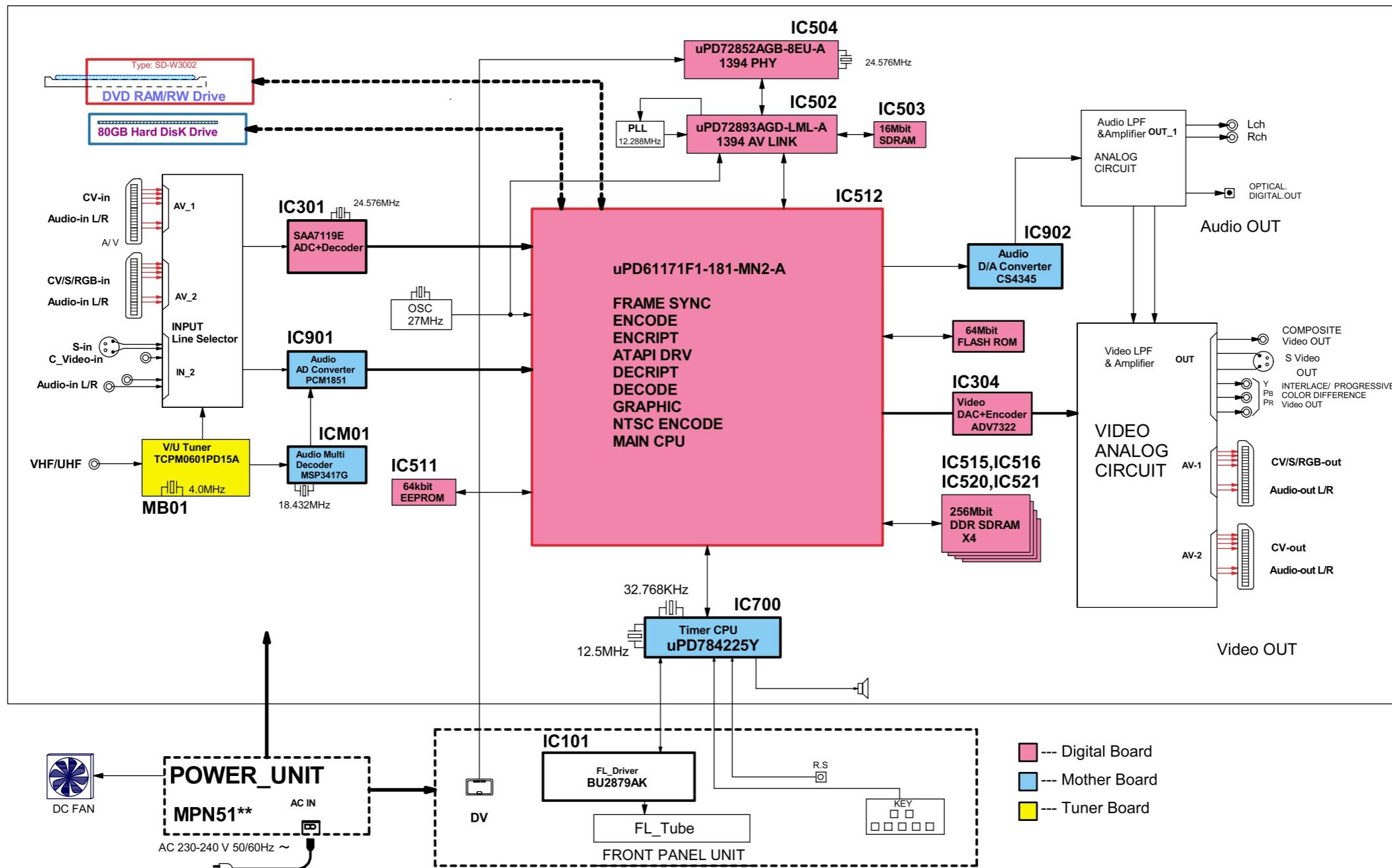
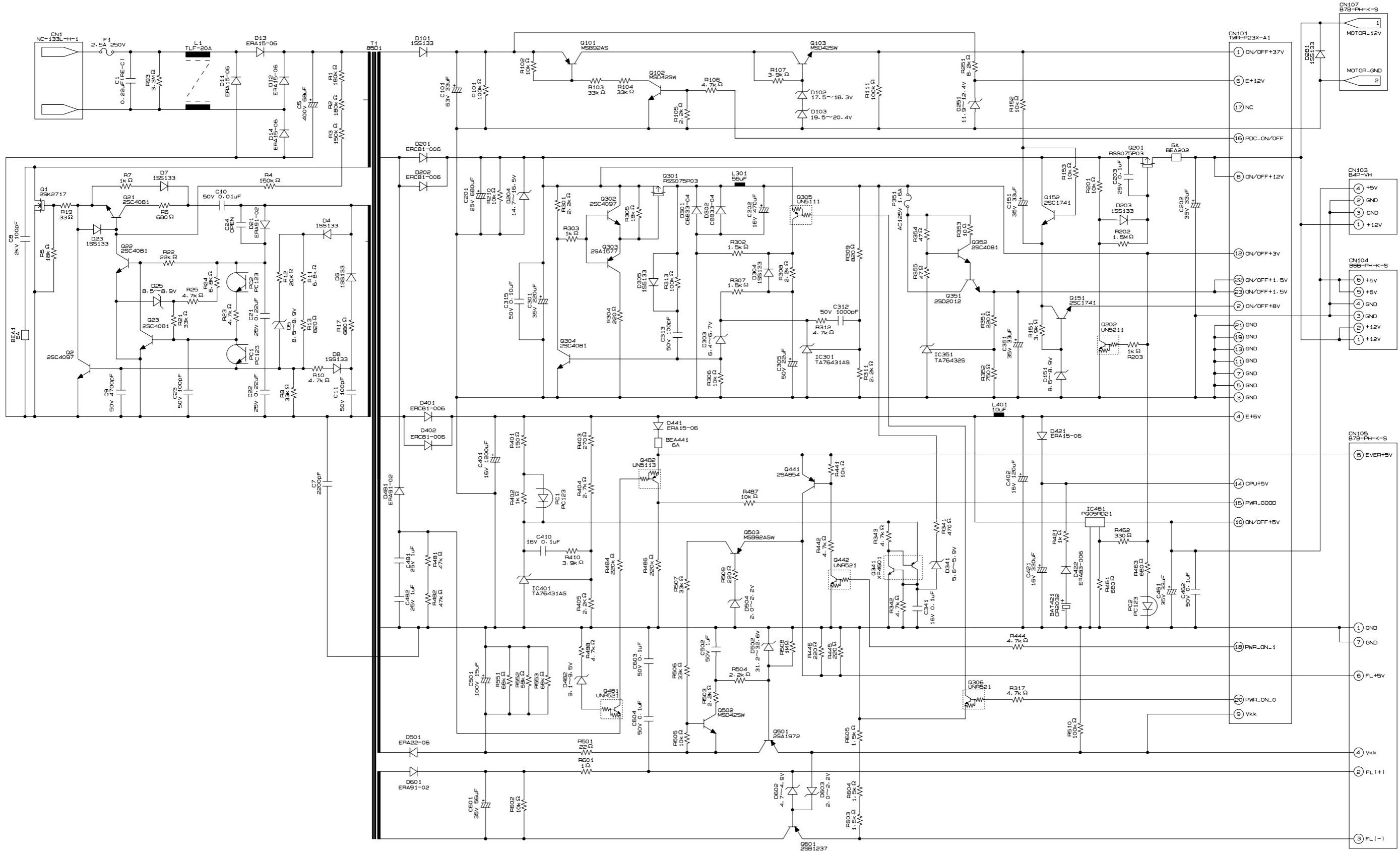


Fig. 3-3-1

4. CIRCUIT DIAGRAMS

4-1. Power Supply Circuit Diagram



A

4-2. Front Circuit Diagram

4-2-1. Front Jack Circuit Diagram

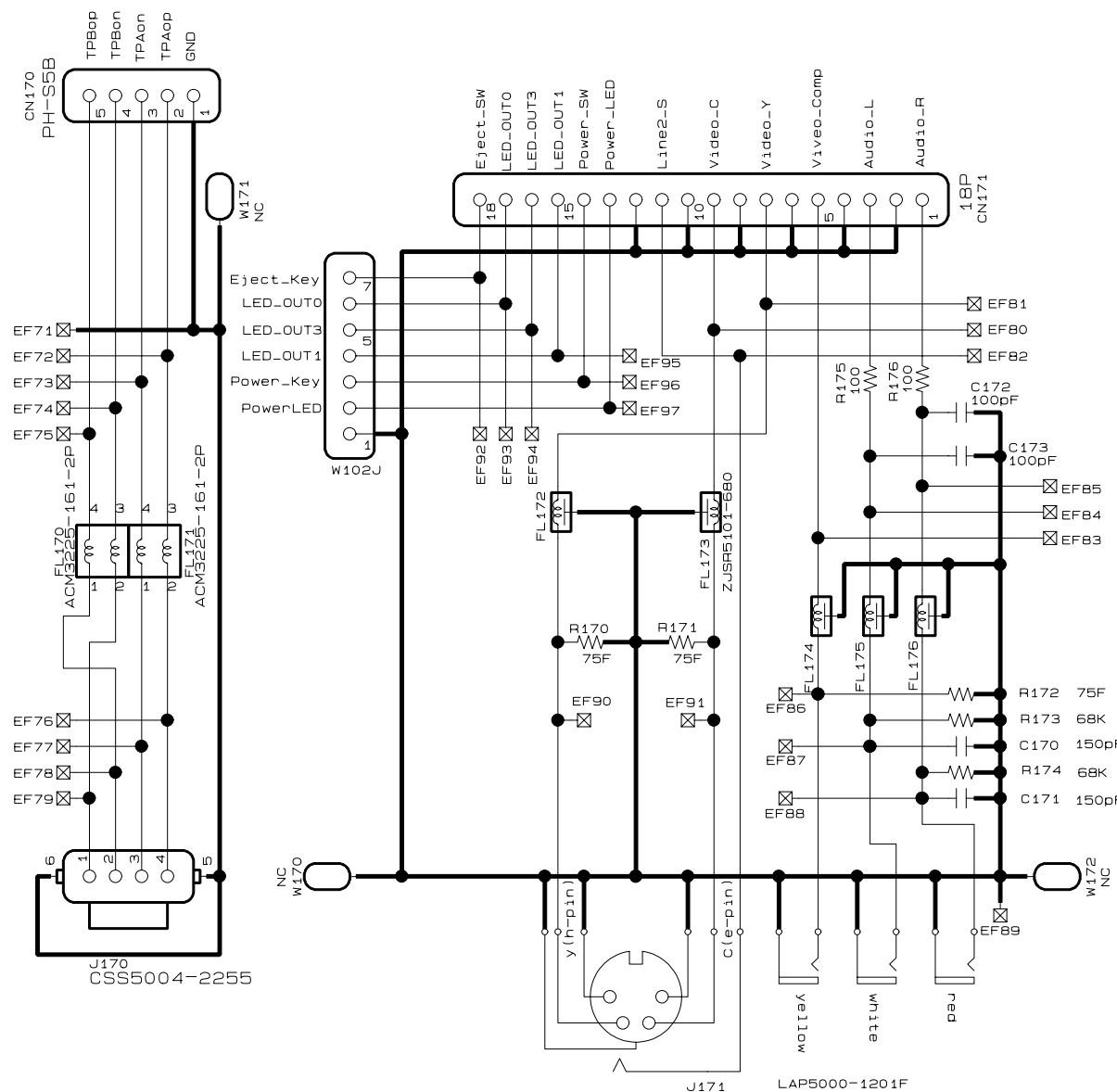


Fig. 3-4-2

4-2-2. Front Circuit Diagram (L/R)

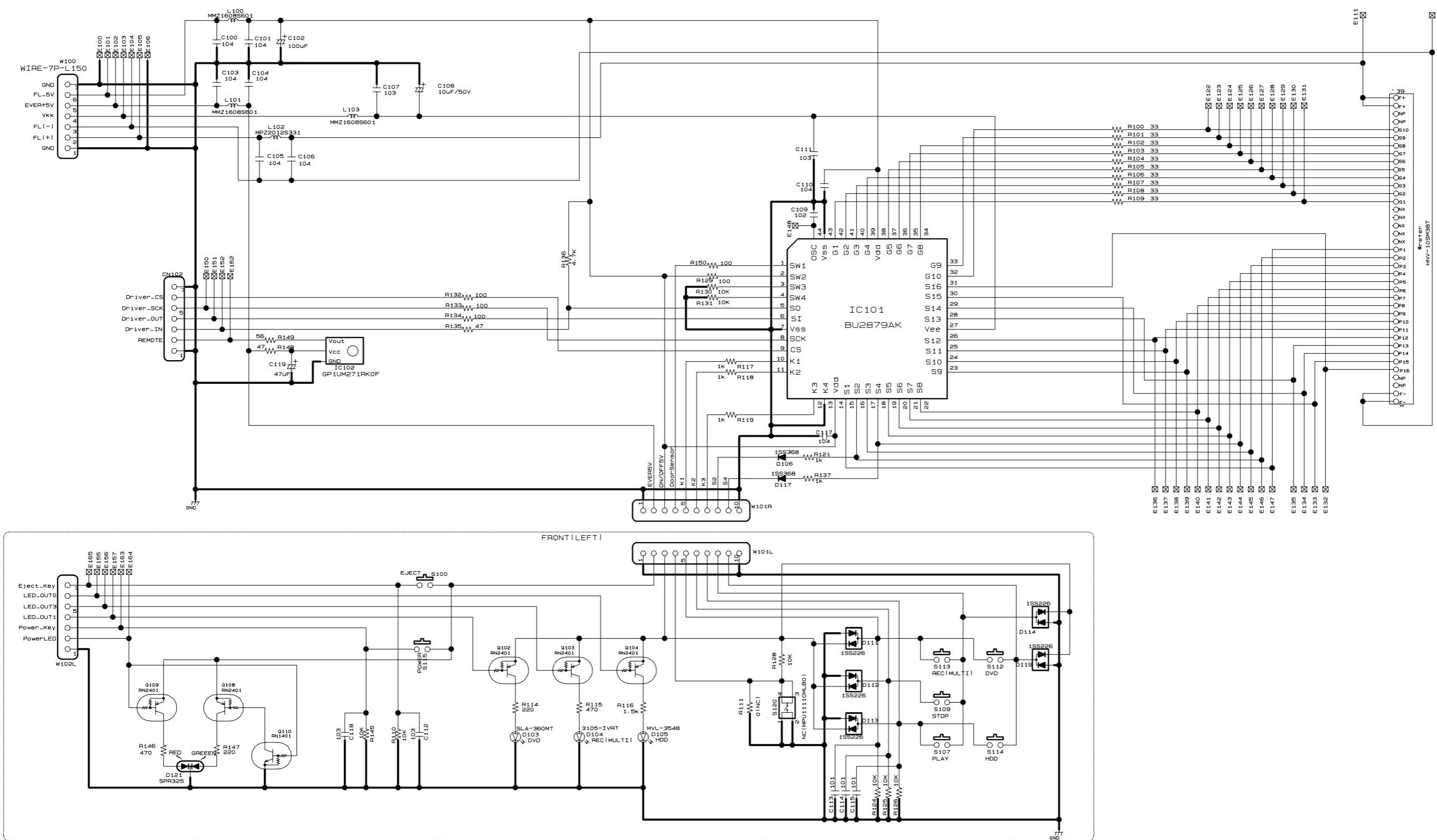


Fig. 3-4-3

4-3. Digital Circuit Diagram

4-3-1. Digital 1 Circuit Diagram

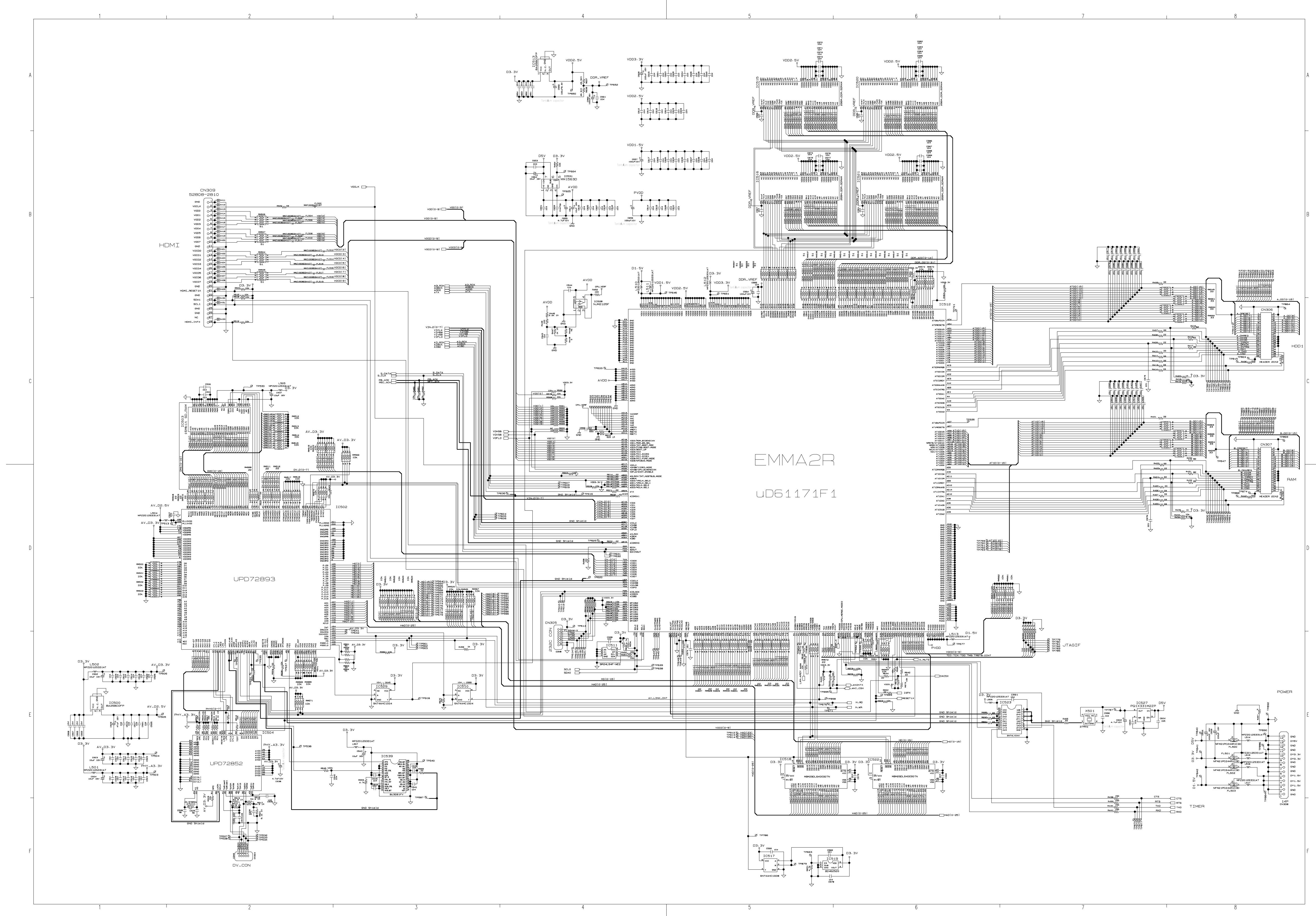
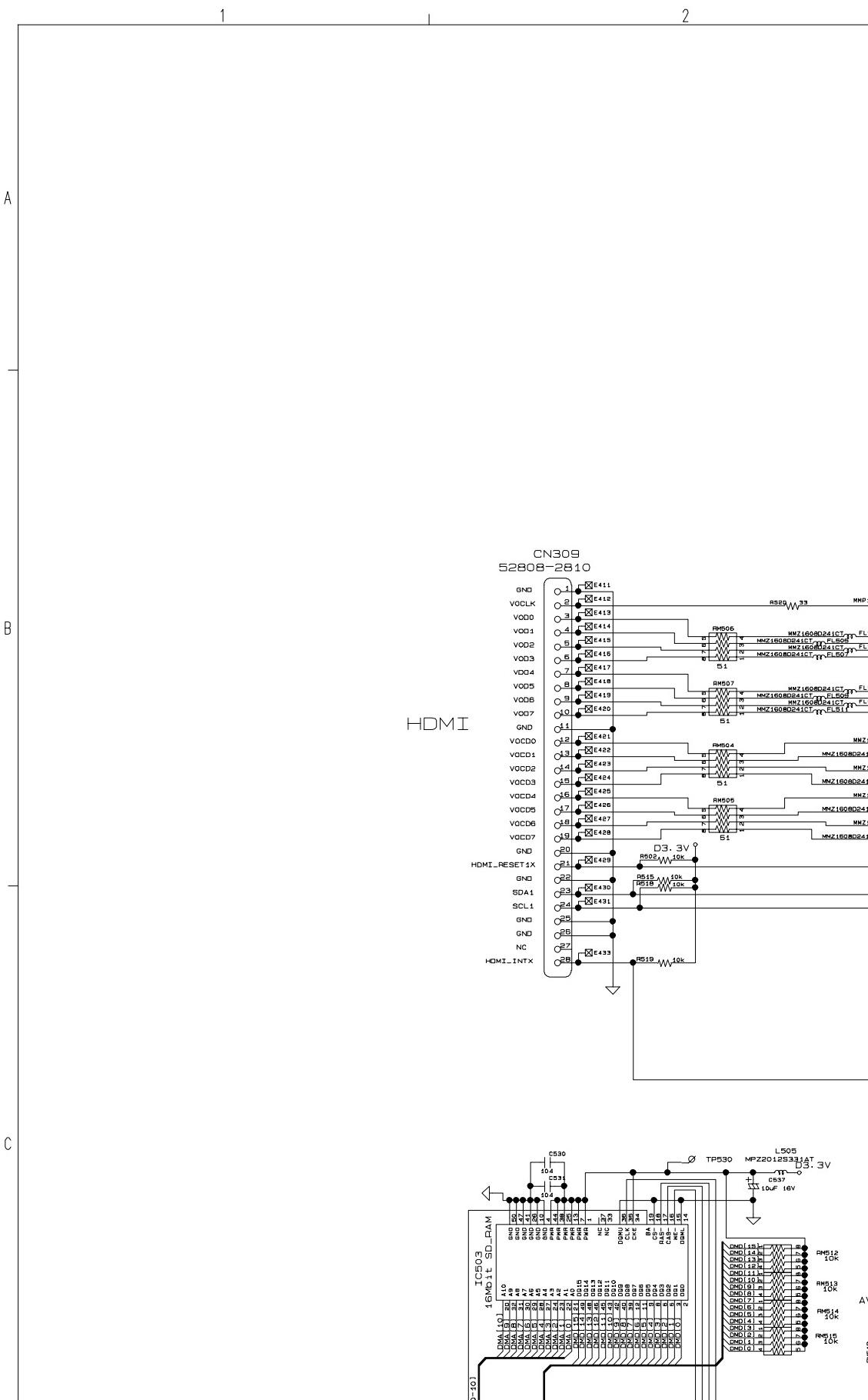
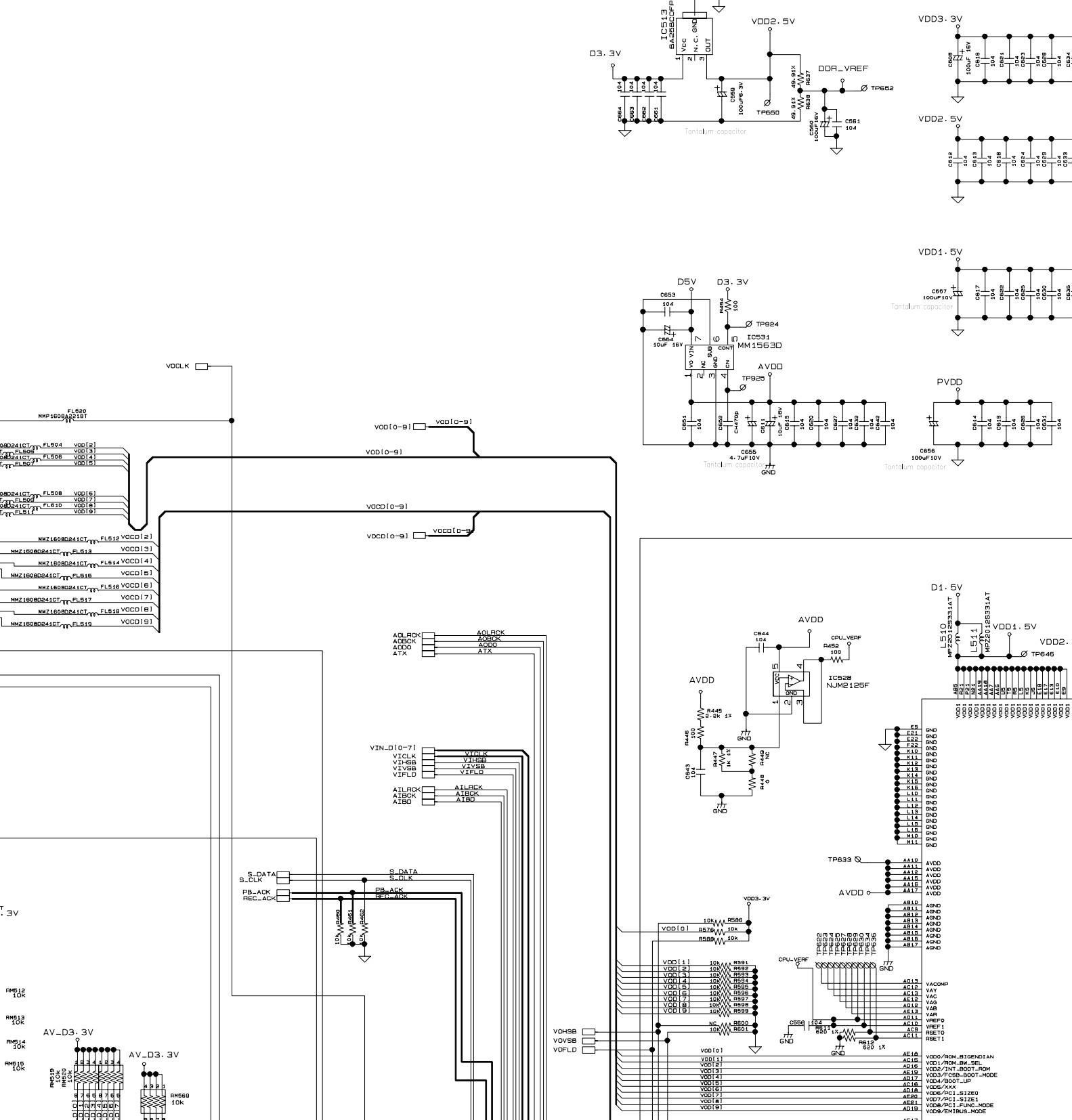


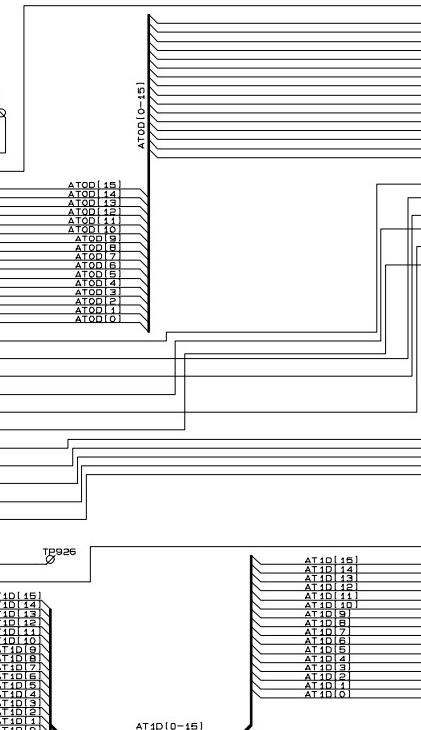
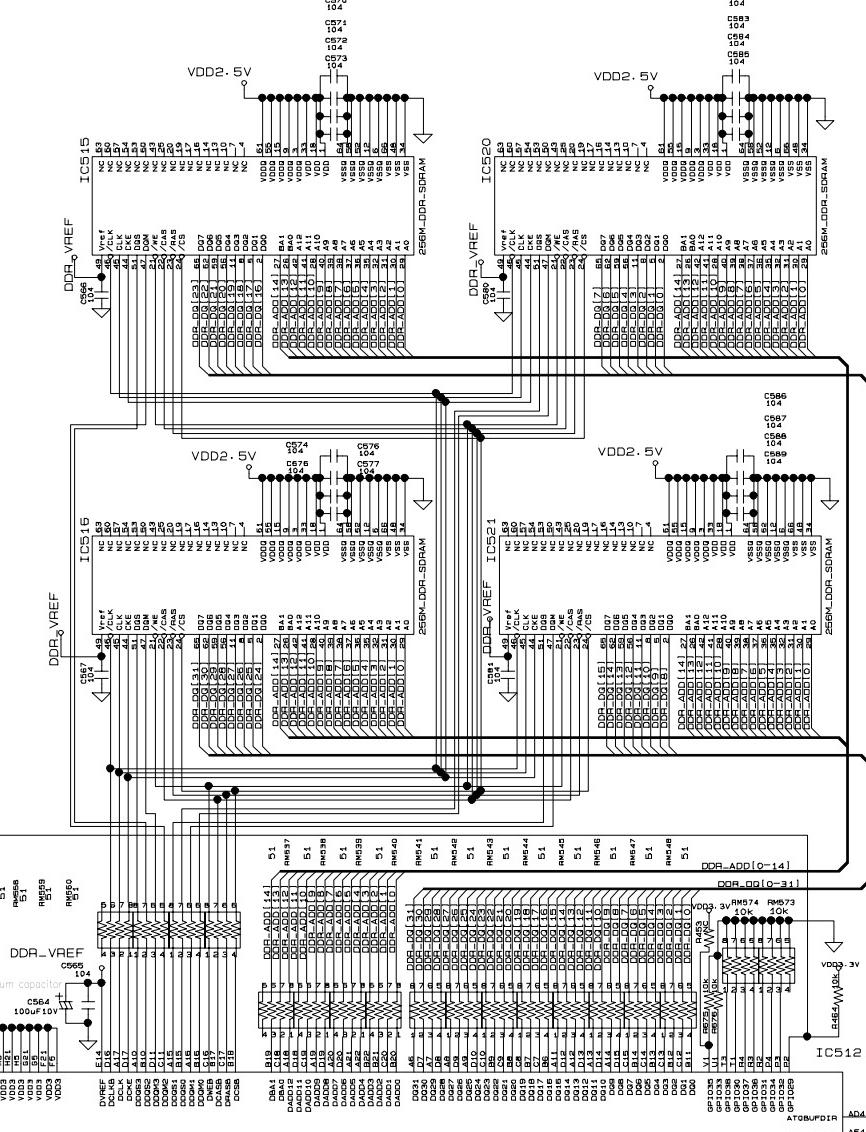
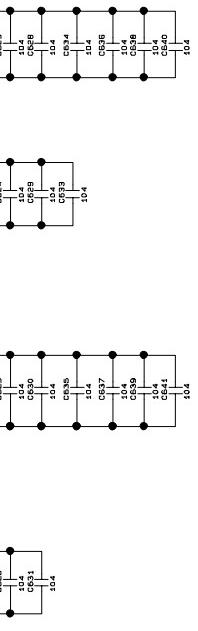
Fig. 3-4-4

4-3. Digital Circuit Diagram

4-3-1. Digital 1 Circuit Diagram





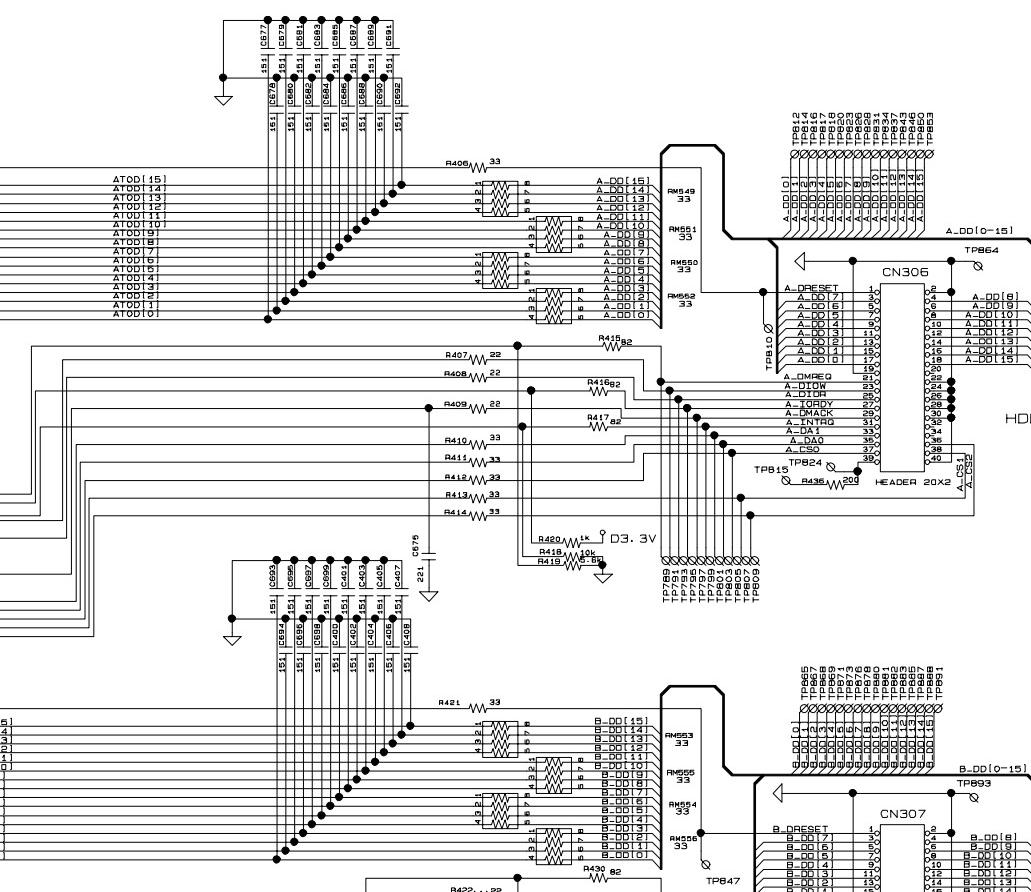


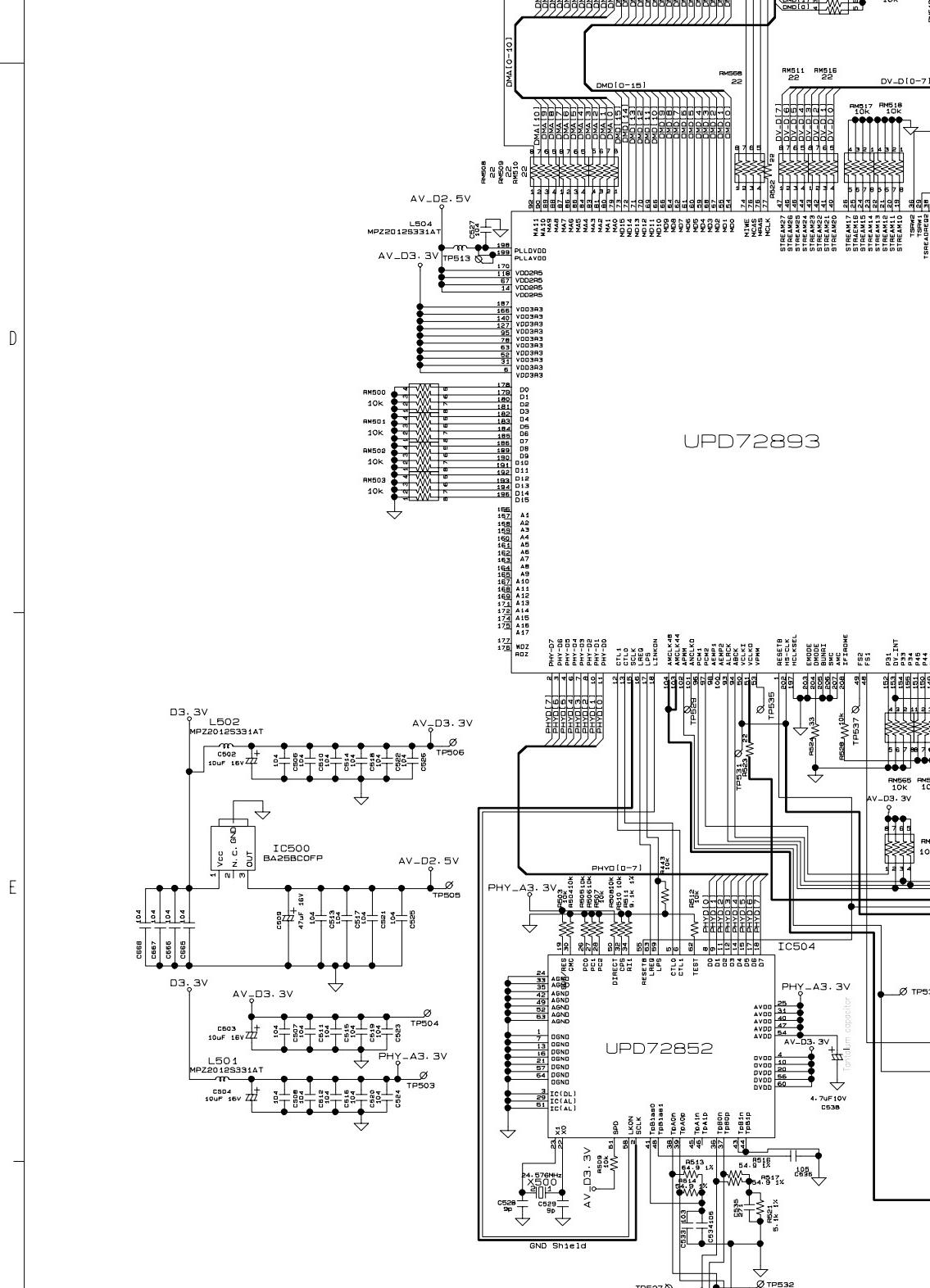
A

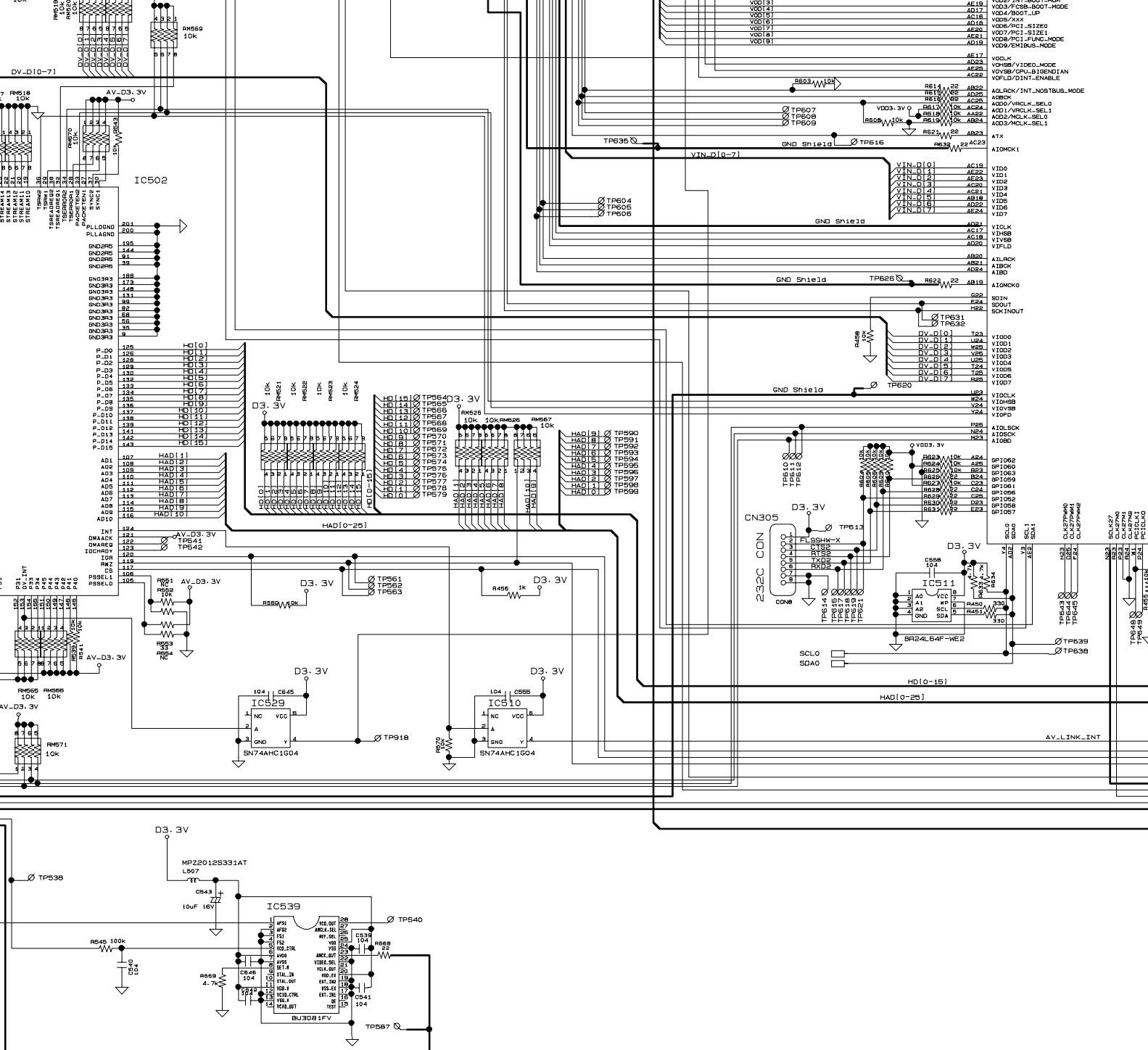
B

HDD 1

C

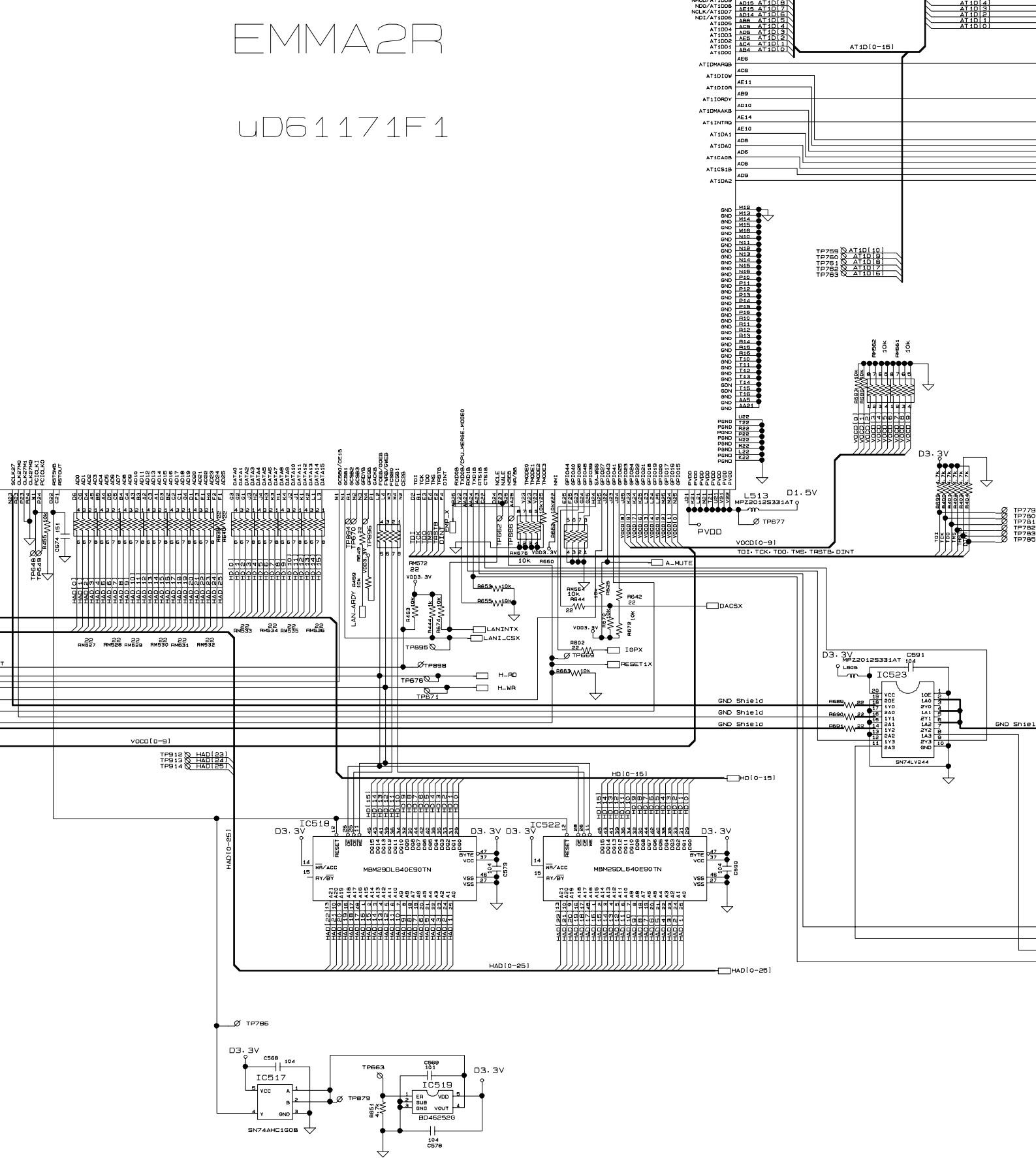


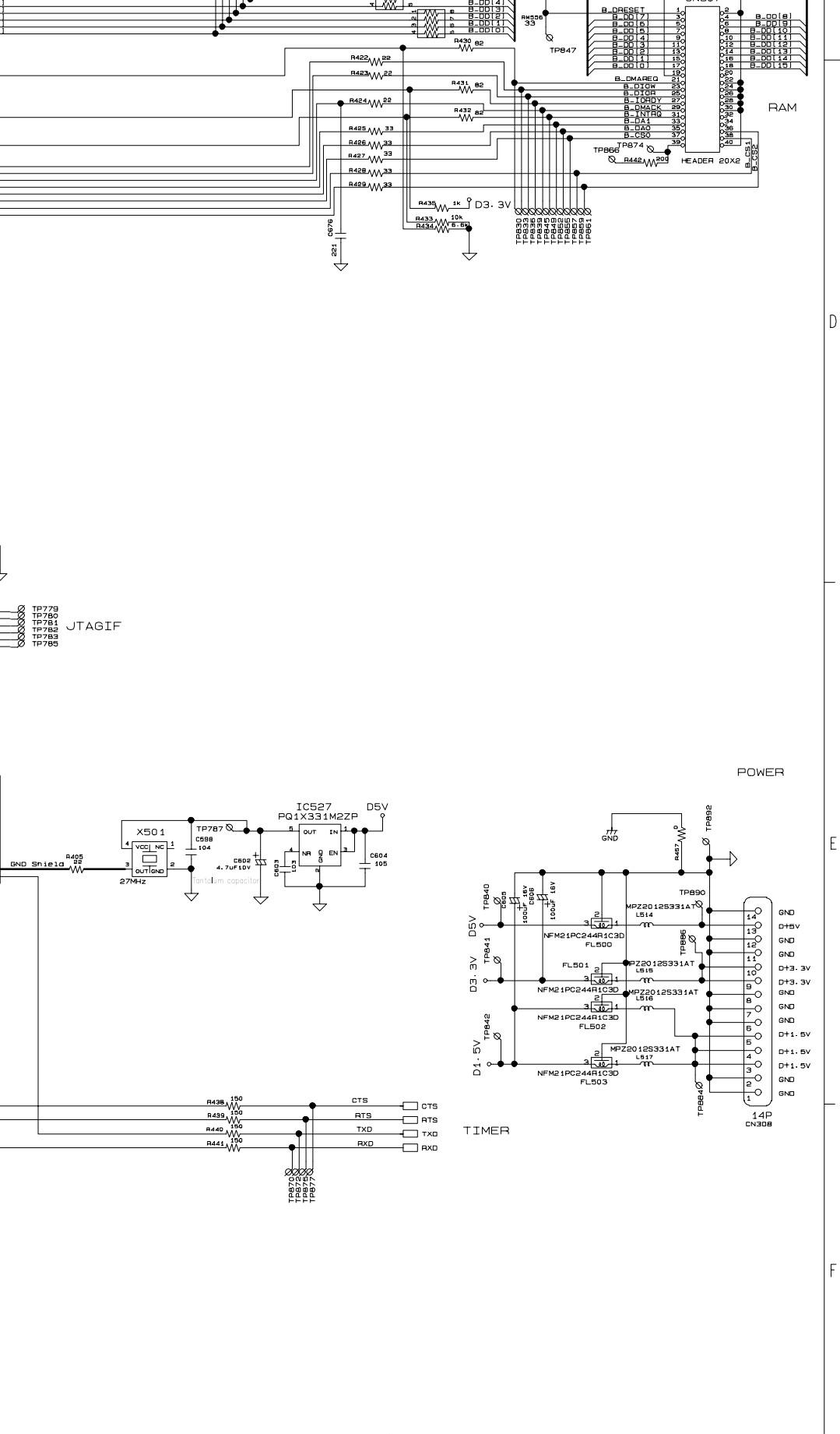




EMMA2R

UD61171F1





7

8

Fig. 3-4-4

4-3-2. Digital 2 Circuit Diagram

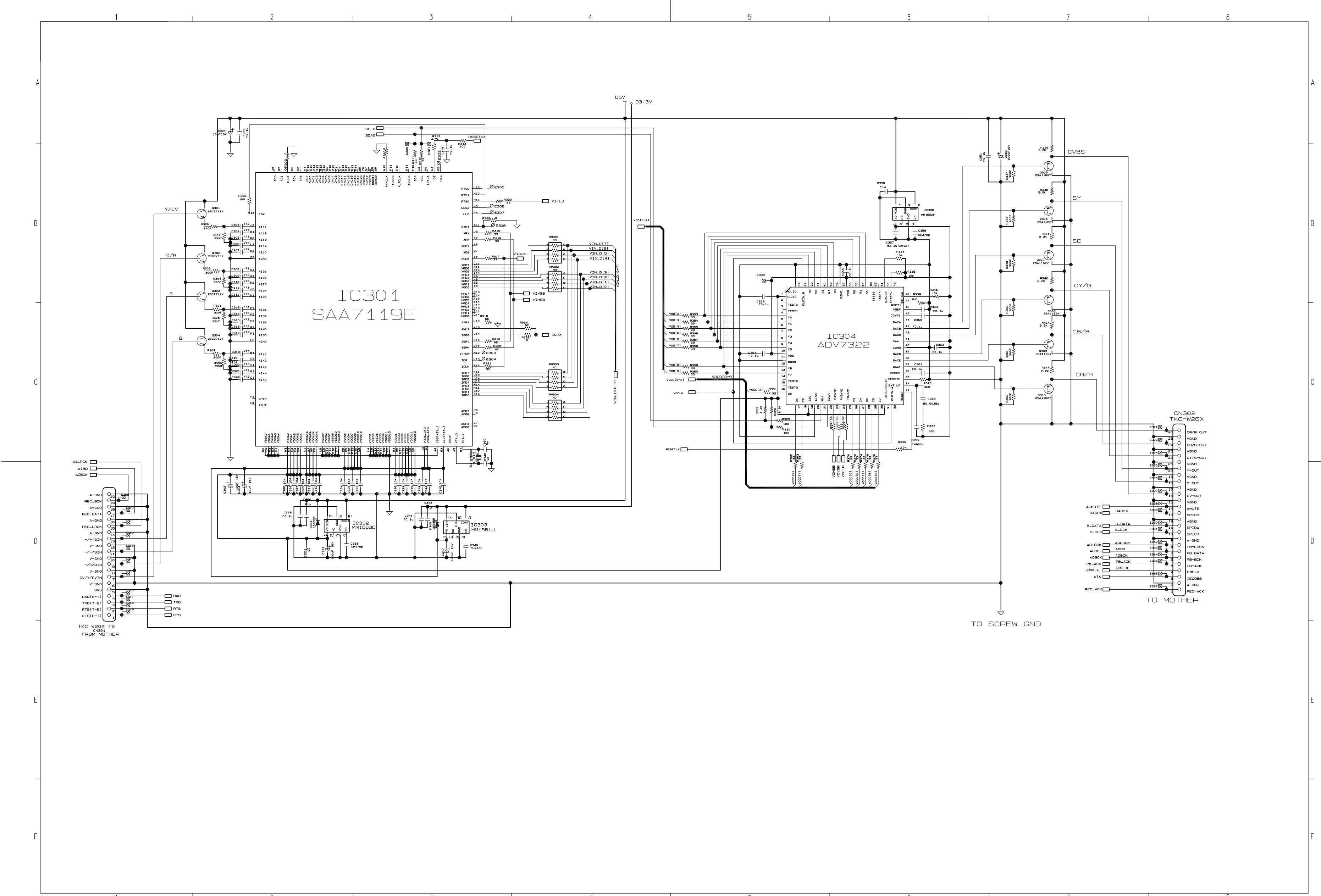
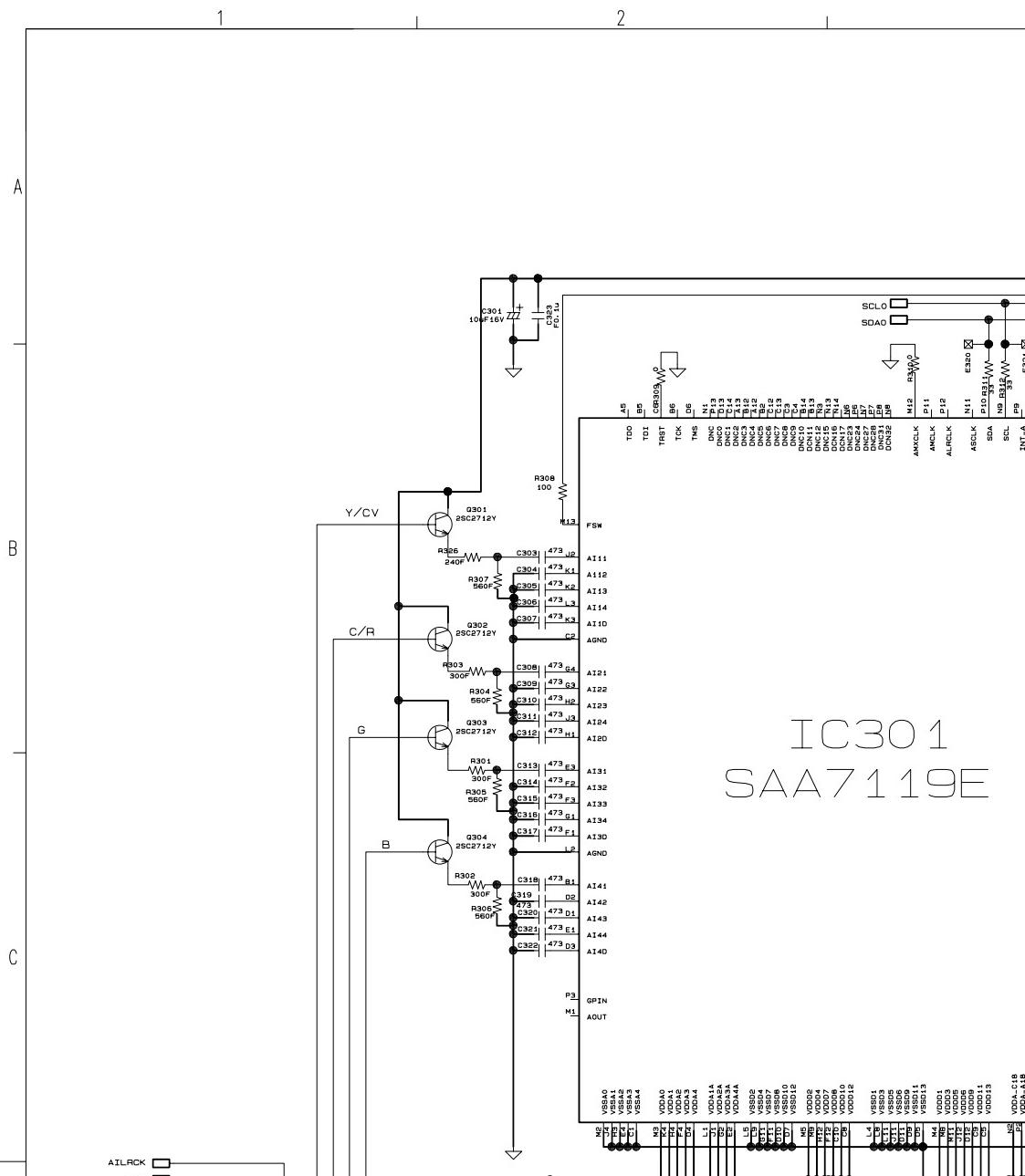


Fig. 3-4-5

4-3-2. Digital 2 Circuit Diagram

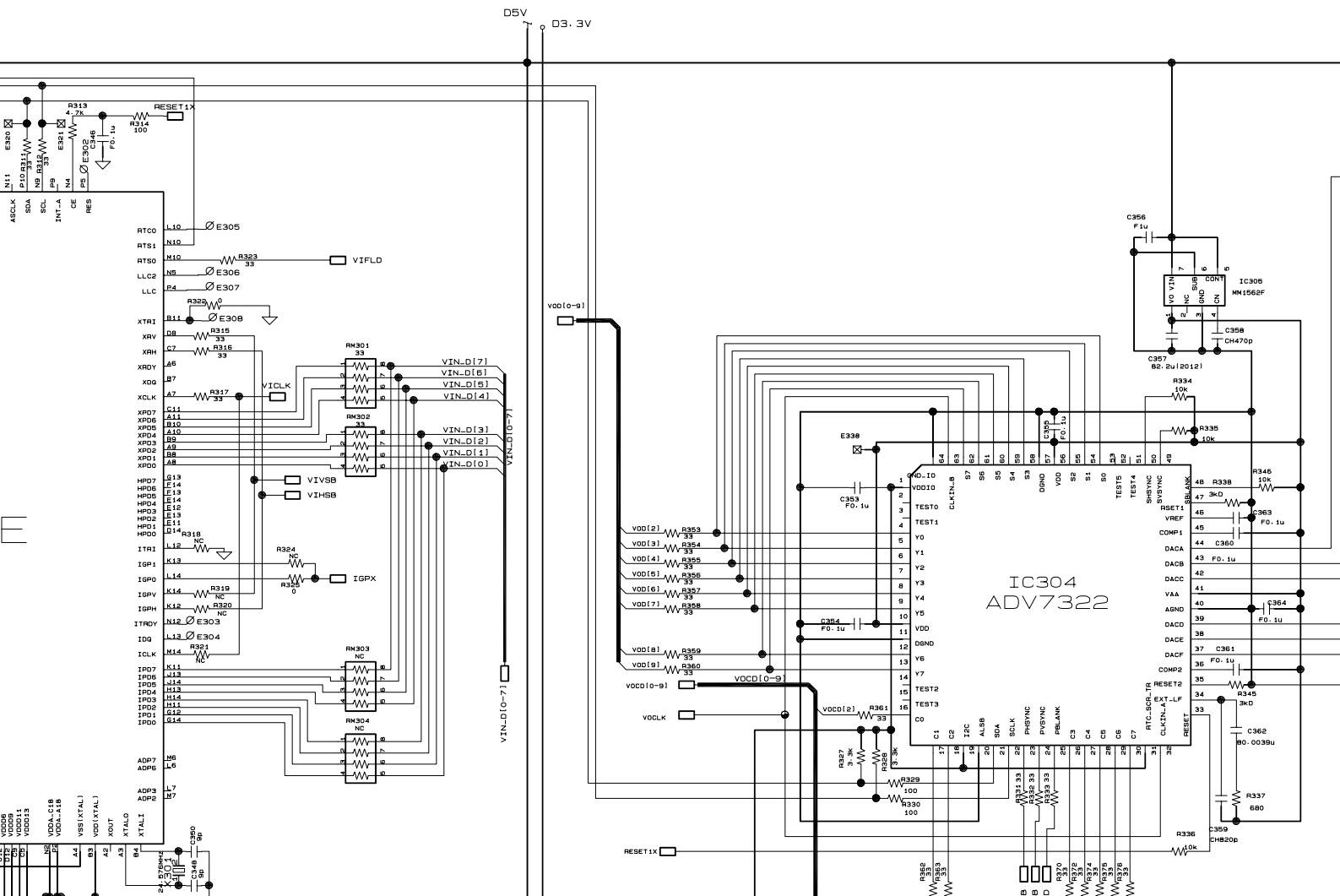


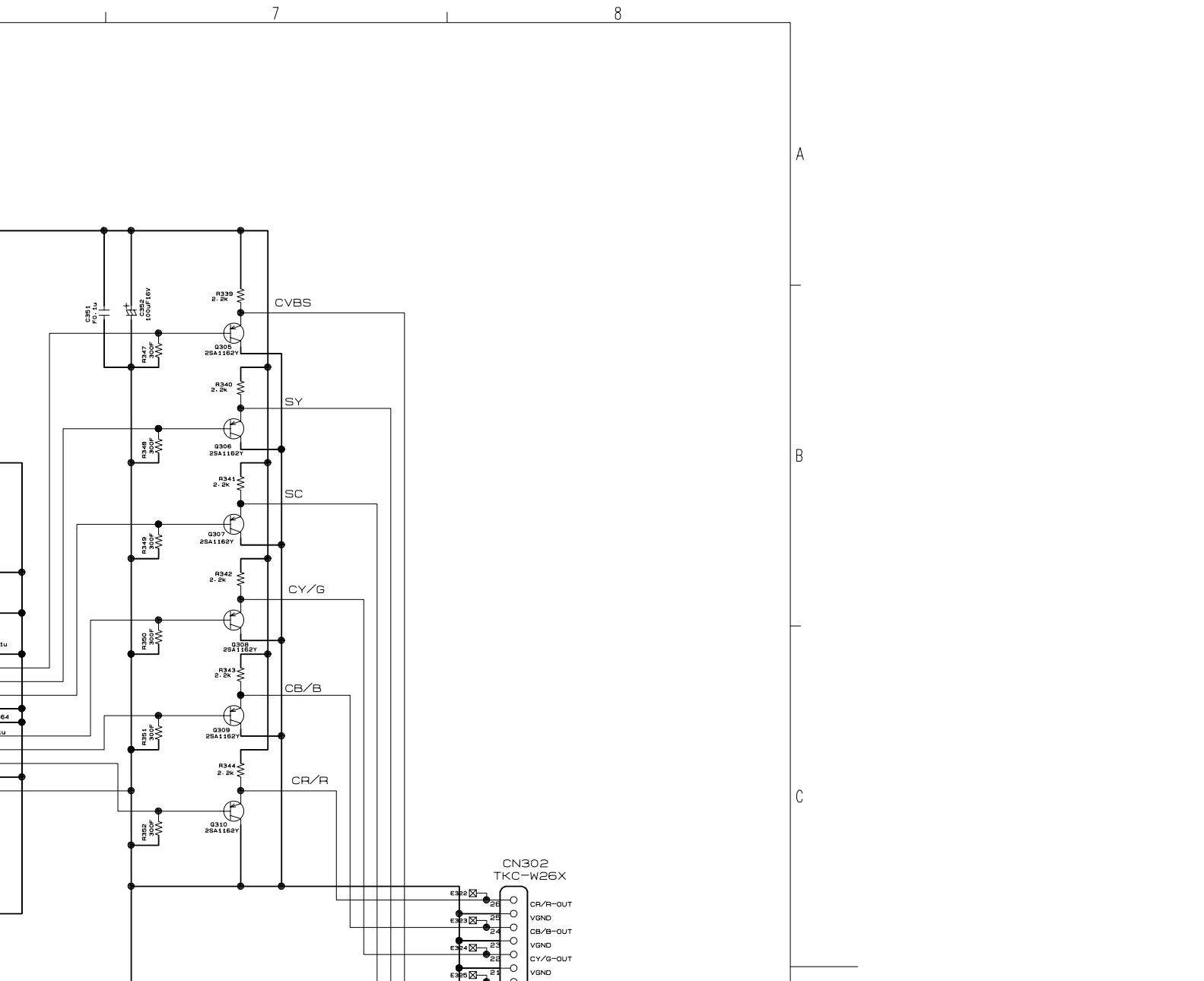
5

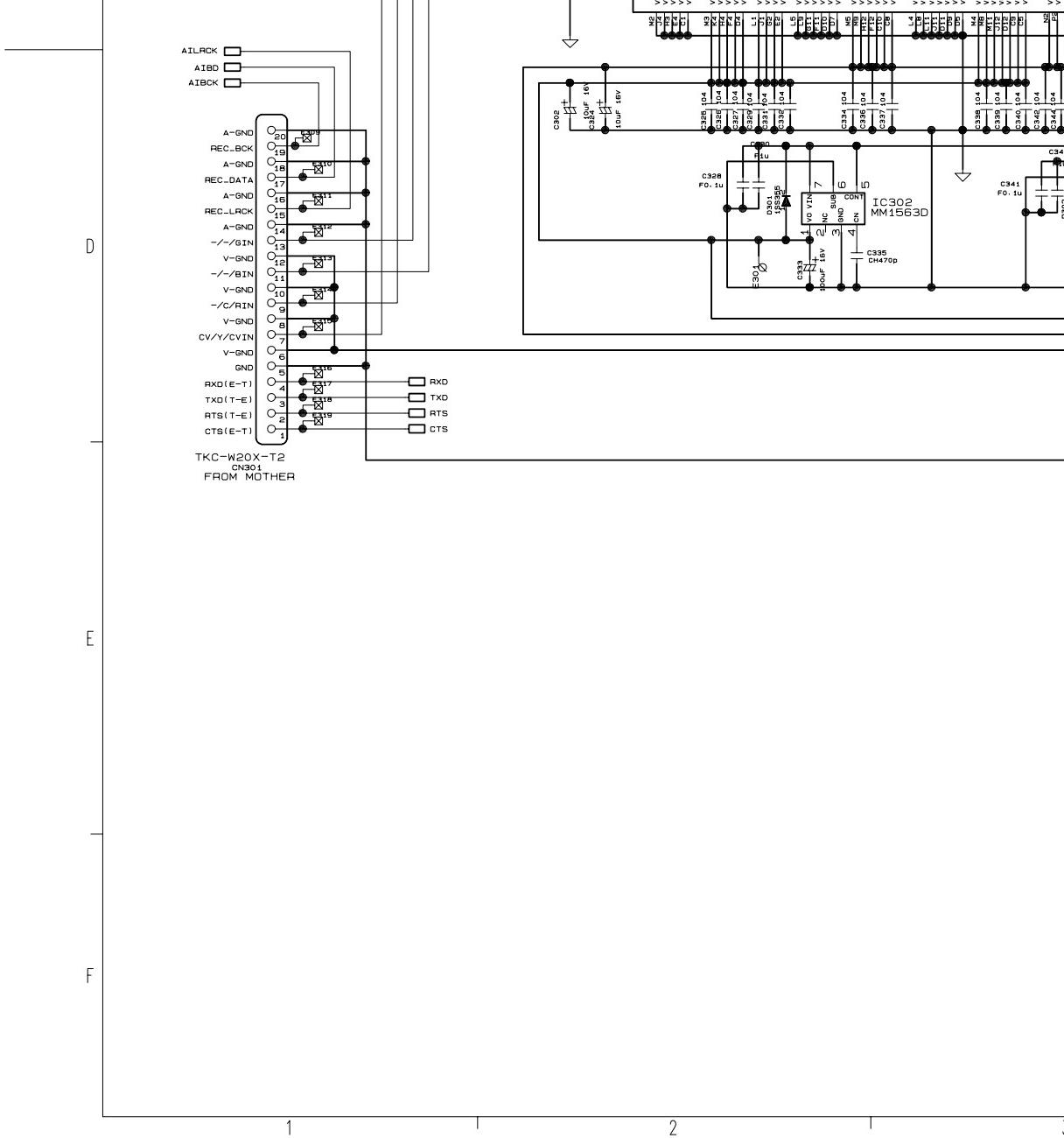
4

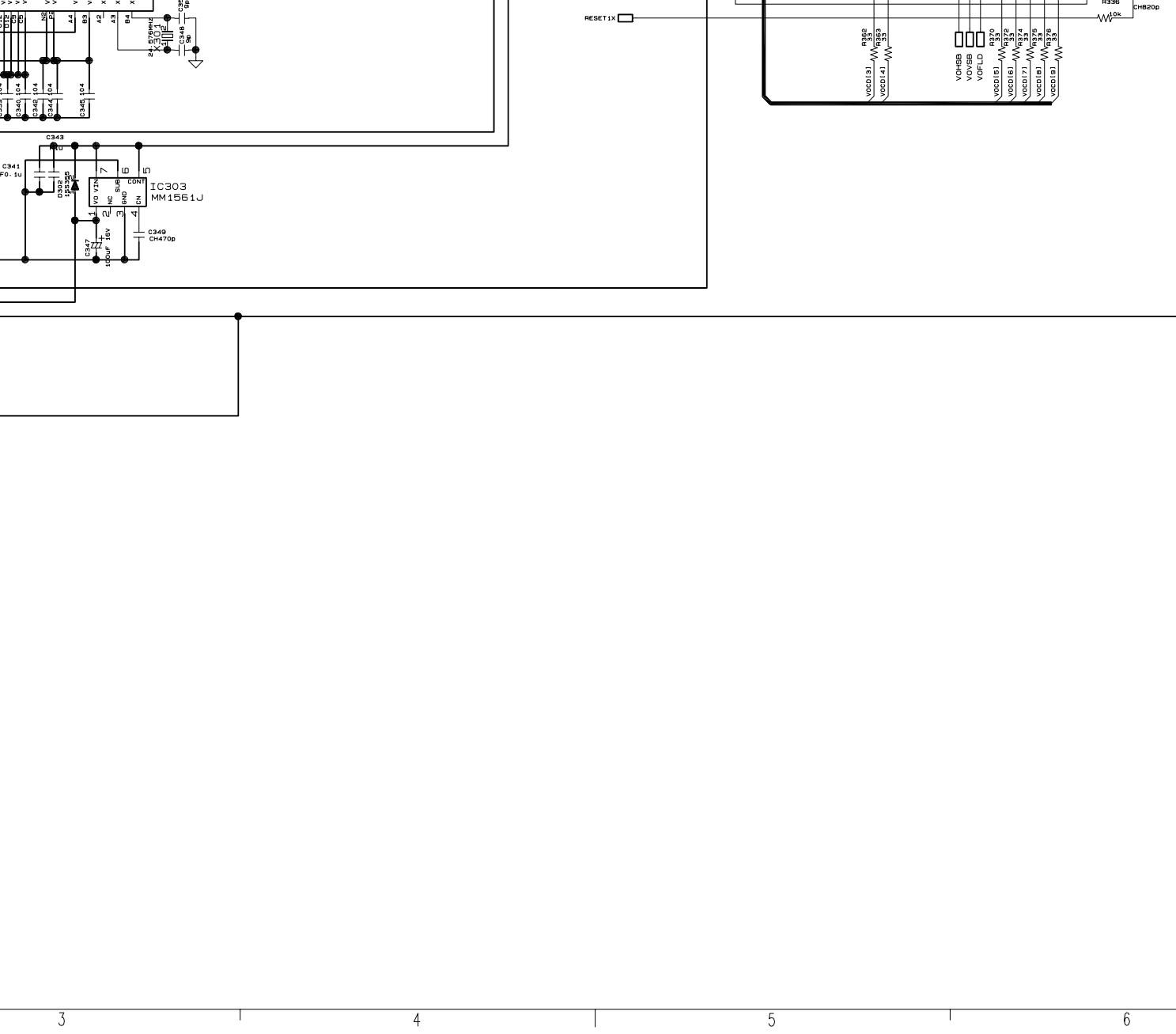
5

0









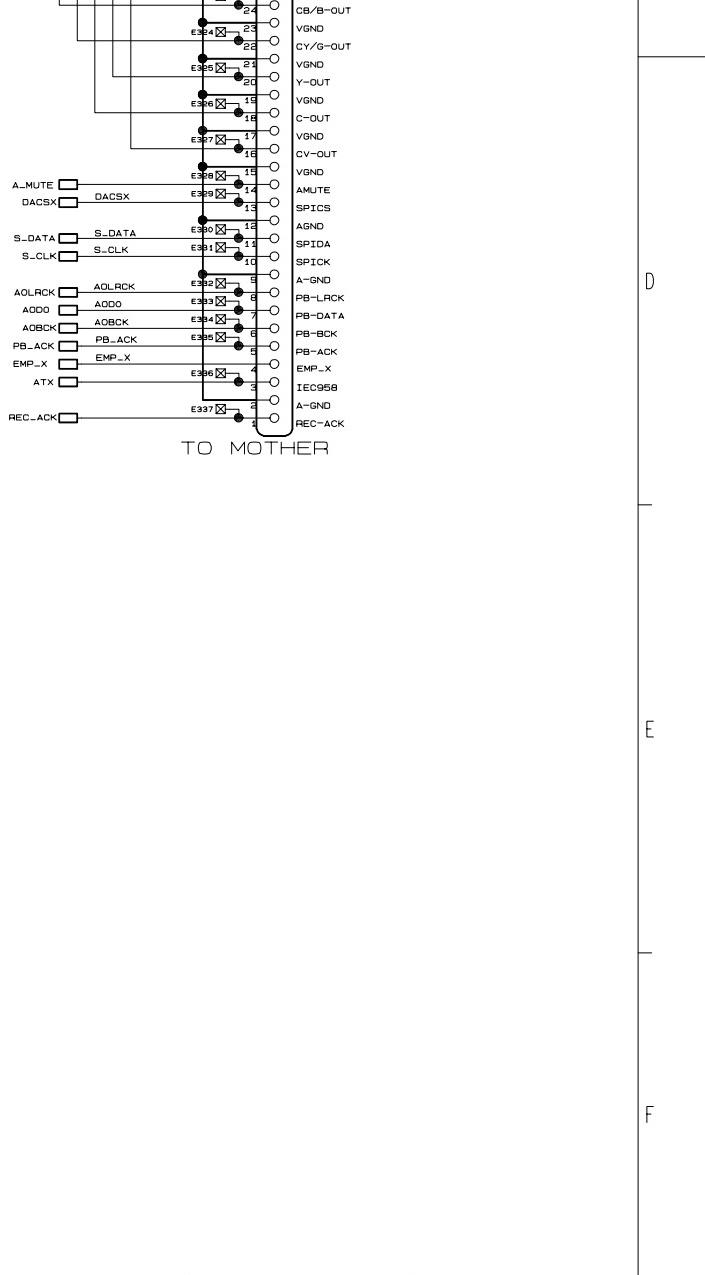


Fig. 3-4-5

4-4. Mother Circuit Diagram

4-4-1. Tuner Interface Circuit Diagram

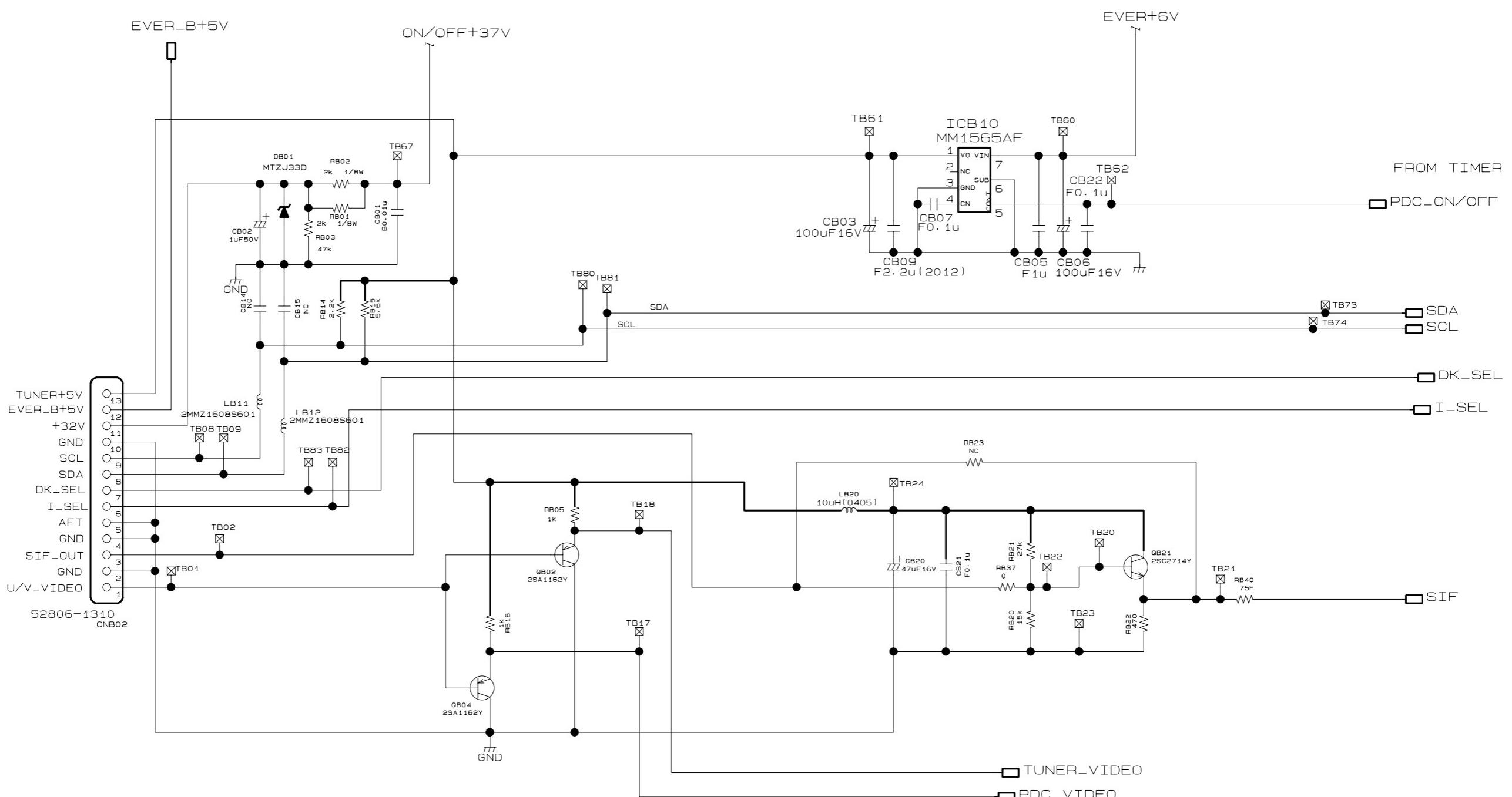


Fig. 3-4-6

1

2

3

4

5

6

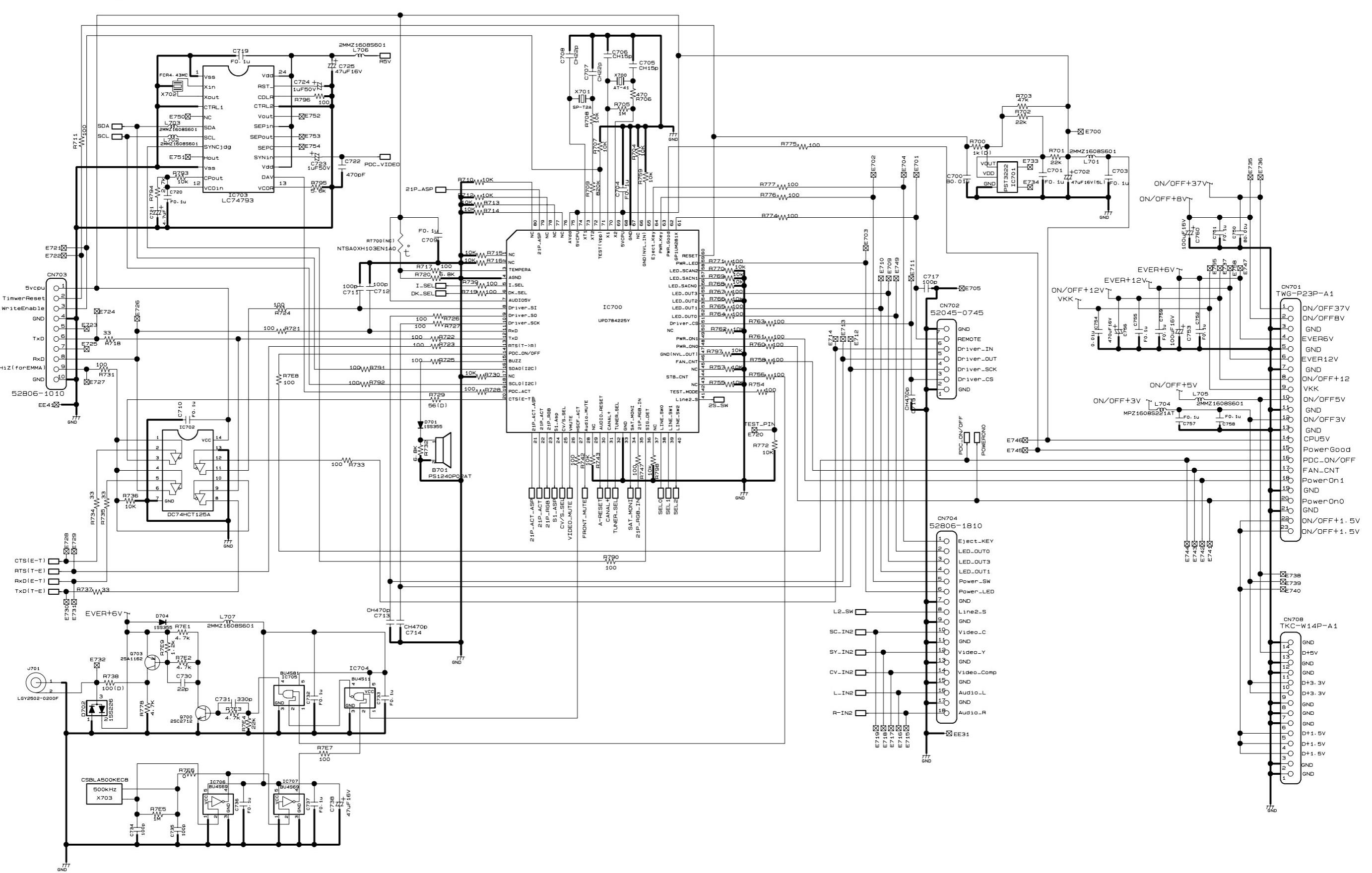
7

8

9

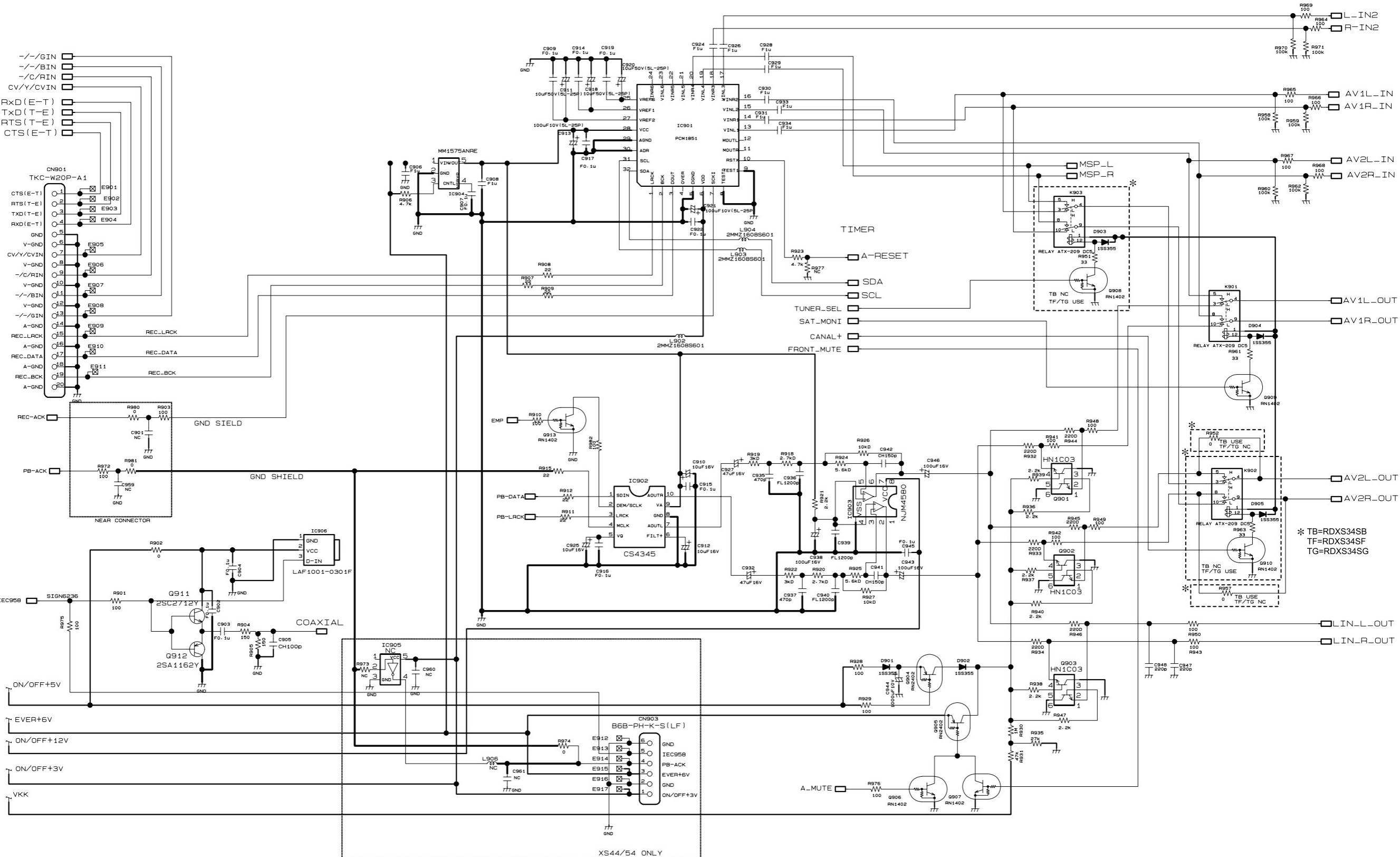
10

4-4-2. Timer Circuit Diagram

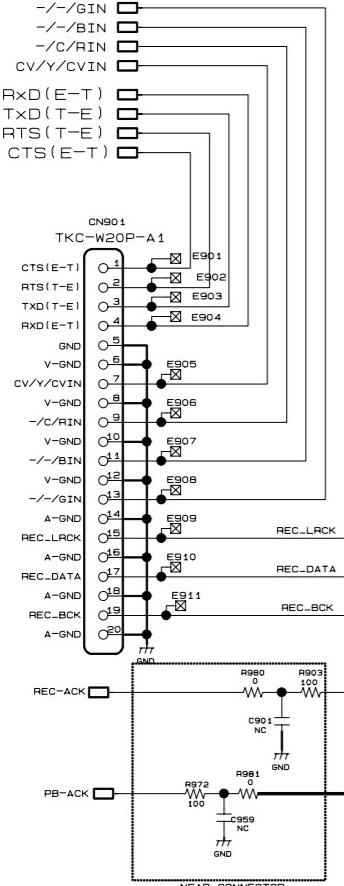


4-4-3. Audio Circuit Diagram

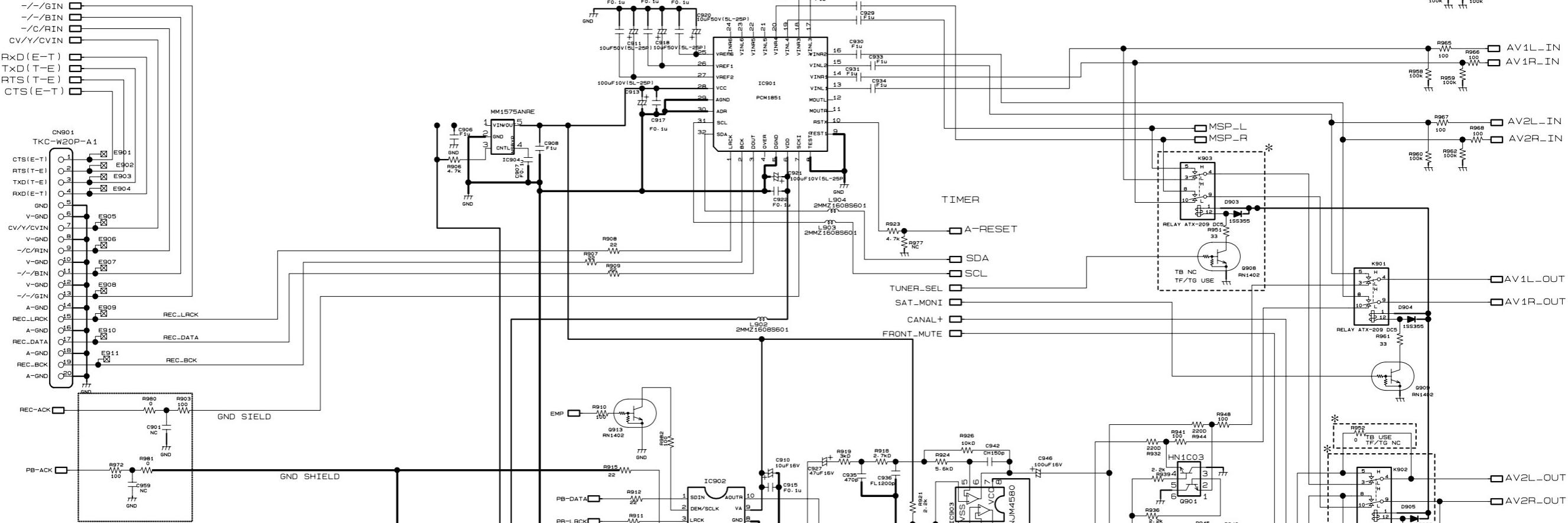
A



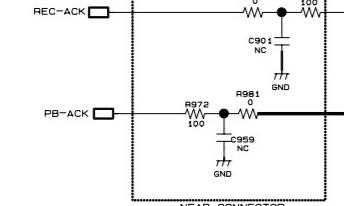
B



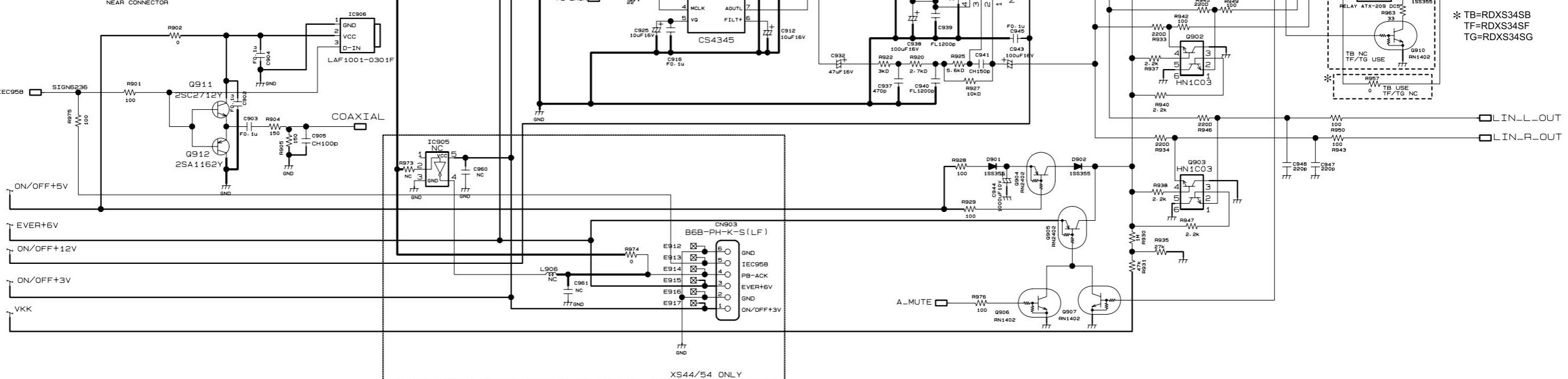
C



D



E



F

G

4-4-4. Video Circuit Diagram

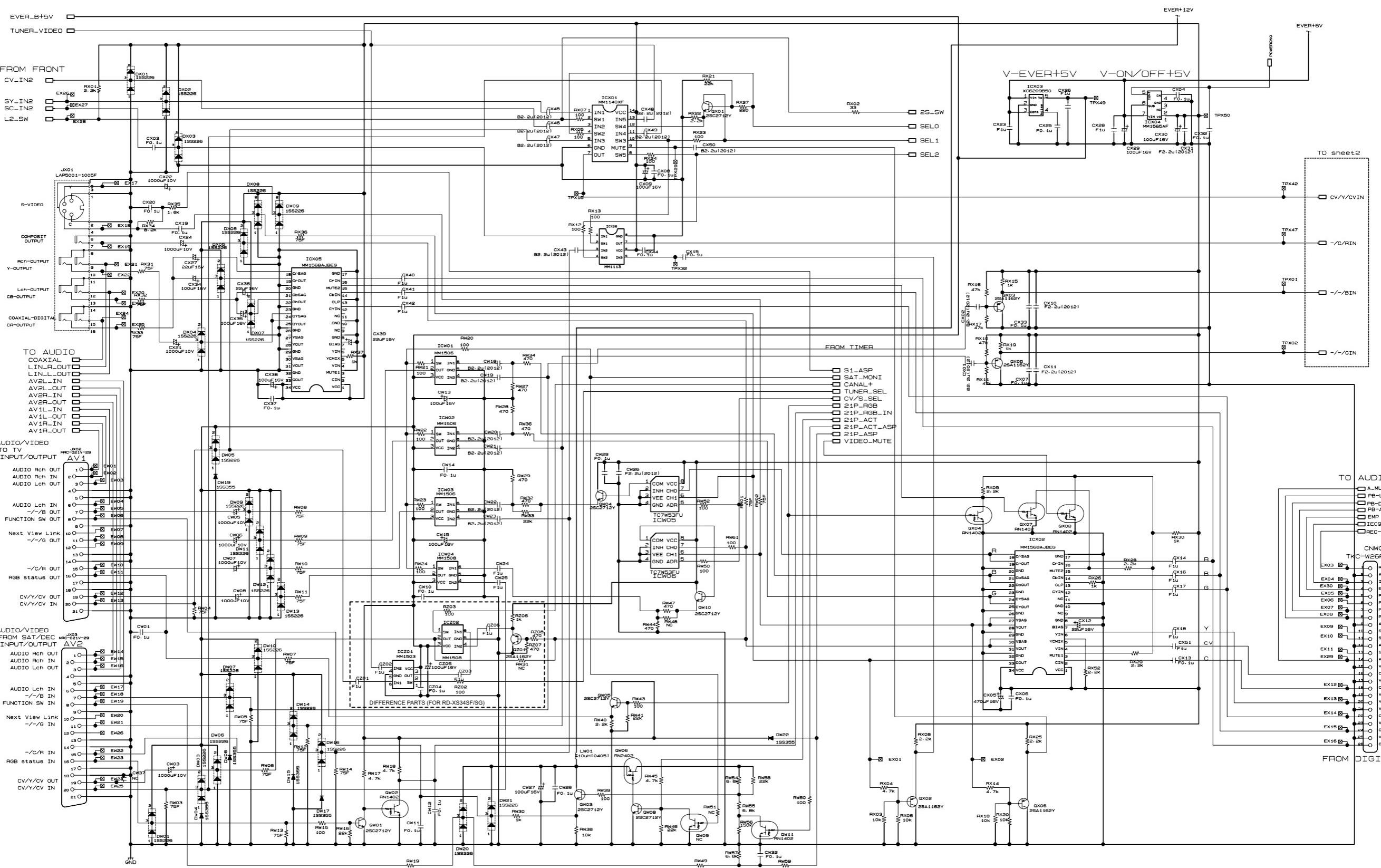


Fig. 3-4-9

1

2

3

4

5

6

7

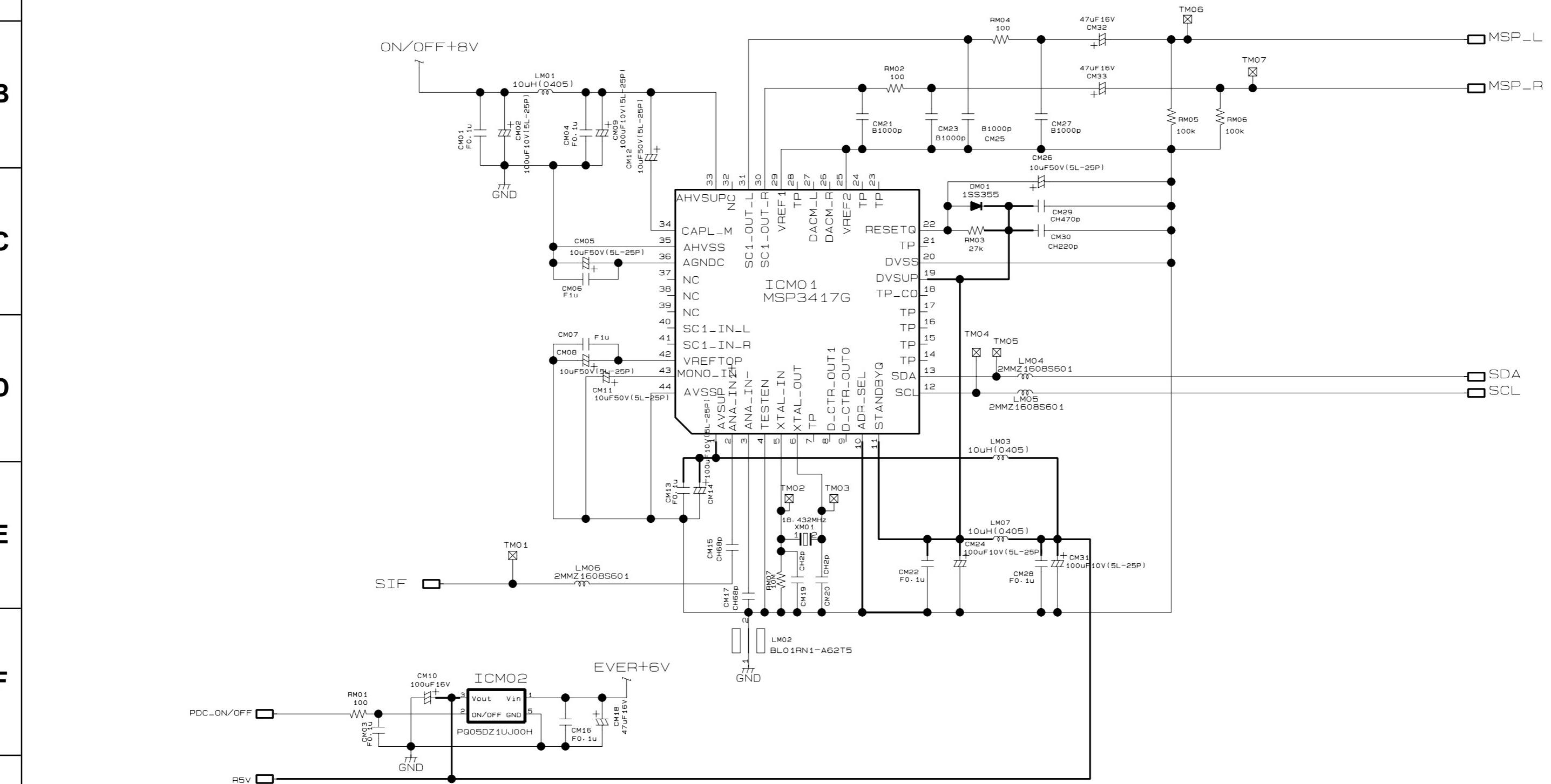
8

9

10

A

4-4-5. MSP Circuit Diagram



4-5. Tuner Unit Circuit Diagram

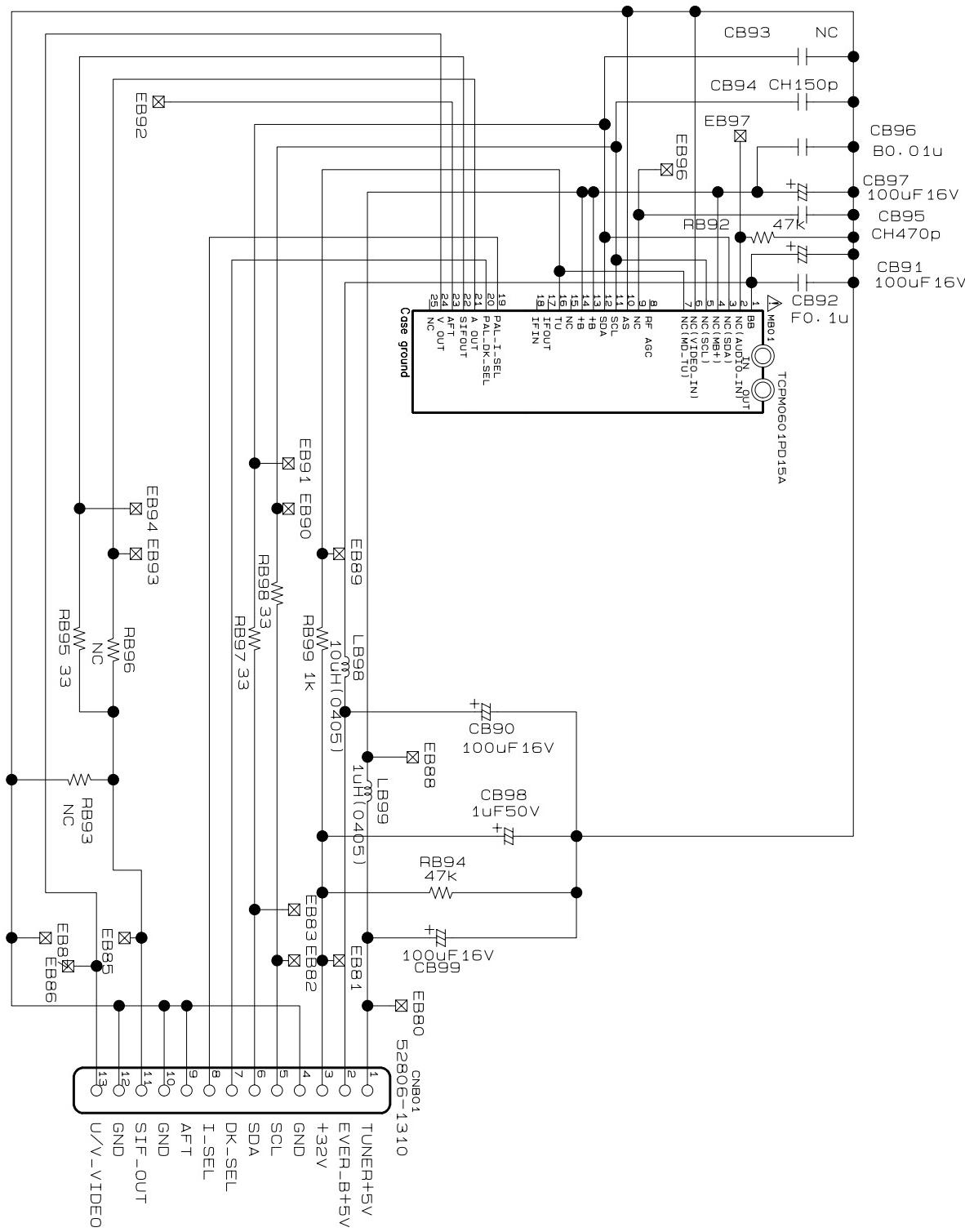


Fig. 3-4-11

5. PC BOARDS

5-1. Front Jack PC Board

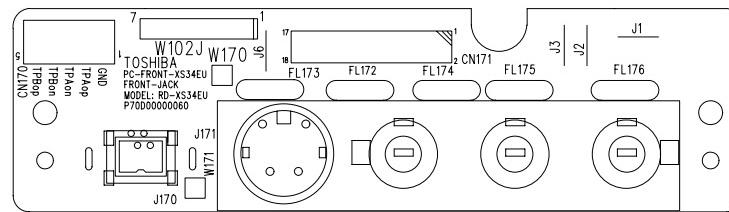


Fig. 3-5-1 EU55 Front Jack PC Broad (Top side)

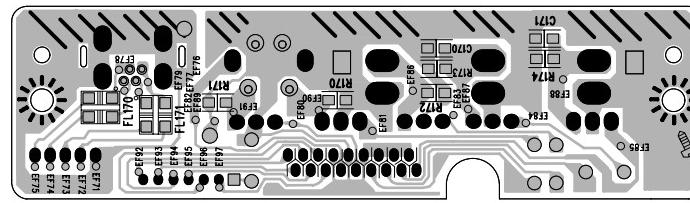


Fig. 3-5-2 EU55 Front Jack PC Broad (Bottom side)

5-2. Front (L) PC Board

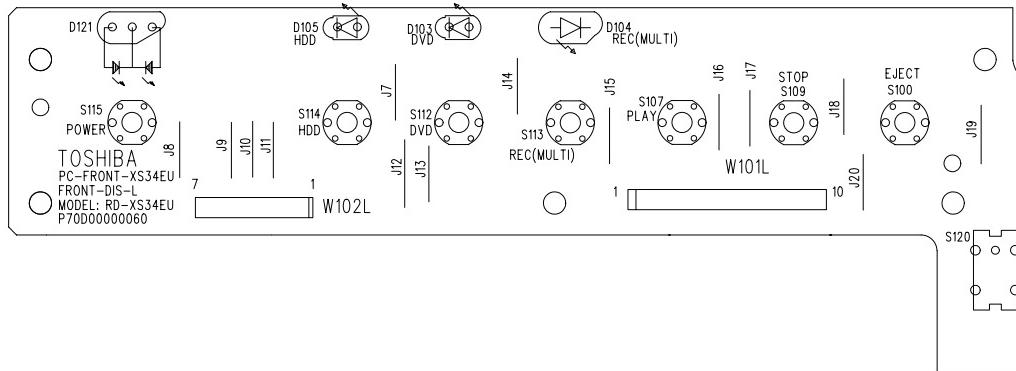


Fig. 3-5-3 EU03B Front (L) PC Broad (Top side)

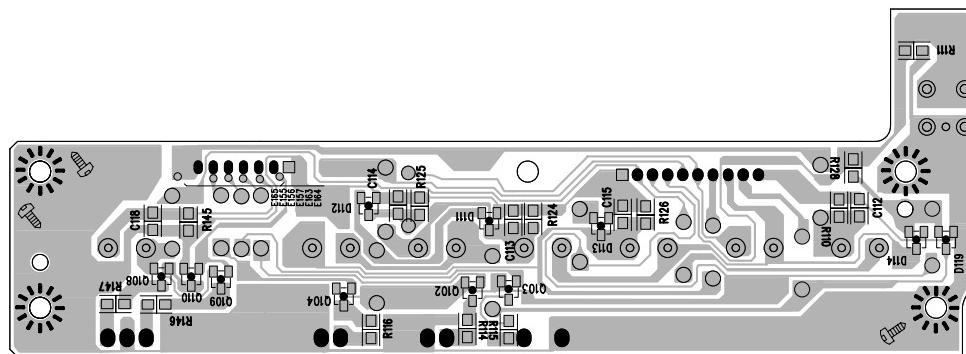


Fig. 3-5-4 EU03B Front (L) PC Broad (Bottom side)

A

5-3. Front (R) PC Board

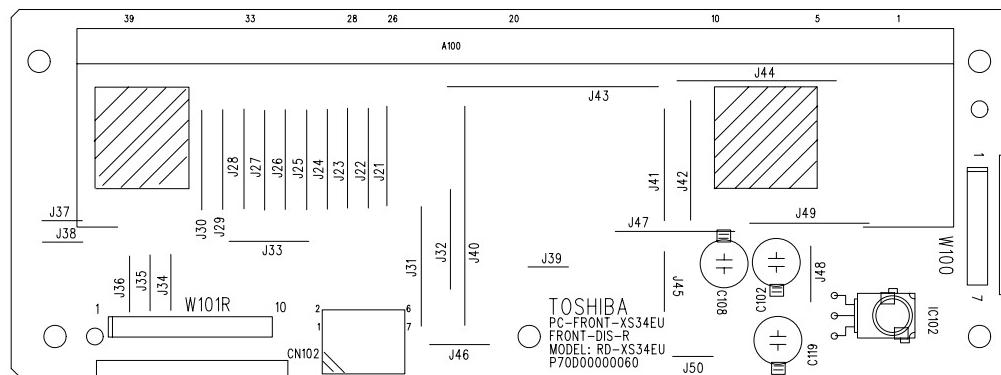


Fig. 3-5-5 EU03A Front (R) PC Broad (Top side)

B

C

D

E

F

G

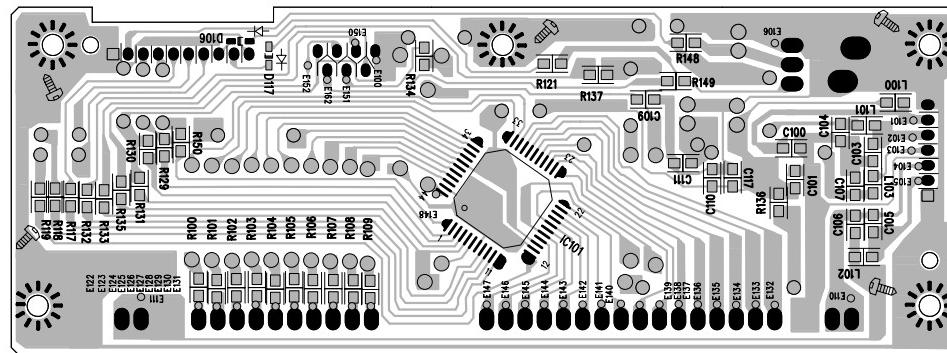


Fig. 3-5-6 EU03A Front (R) PC Broad (Bottom side)

5-4. Tuner Unit PC Board

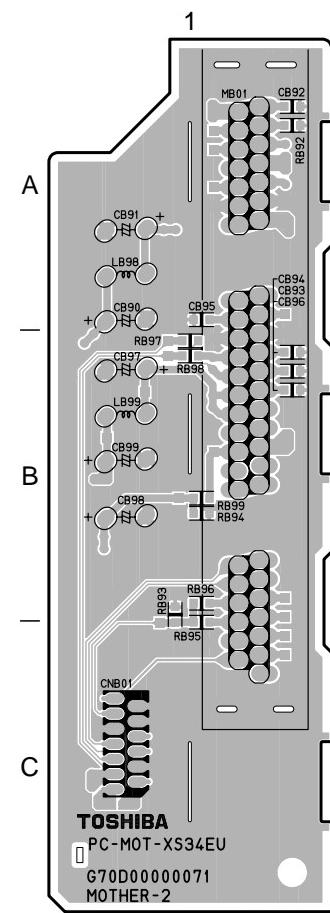
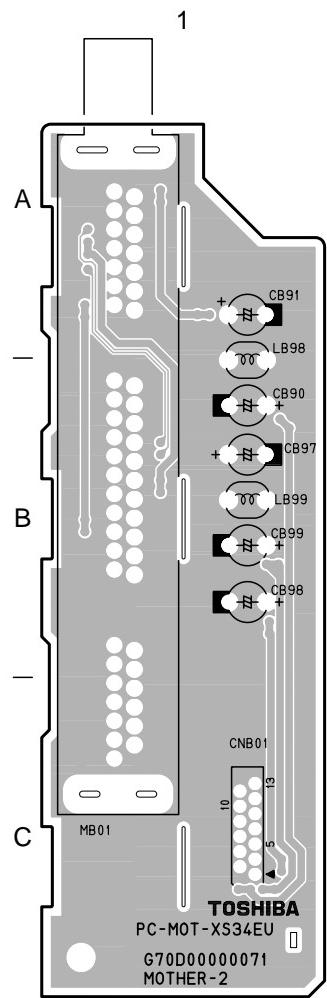


Fig. 3-5-7 EU82 Tuner Unit PC Broad (Top side)

Fig. 3-5-8 EU82 Tuner Unit PC Broad (Bottom side)

5-5. Digital PC Board

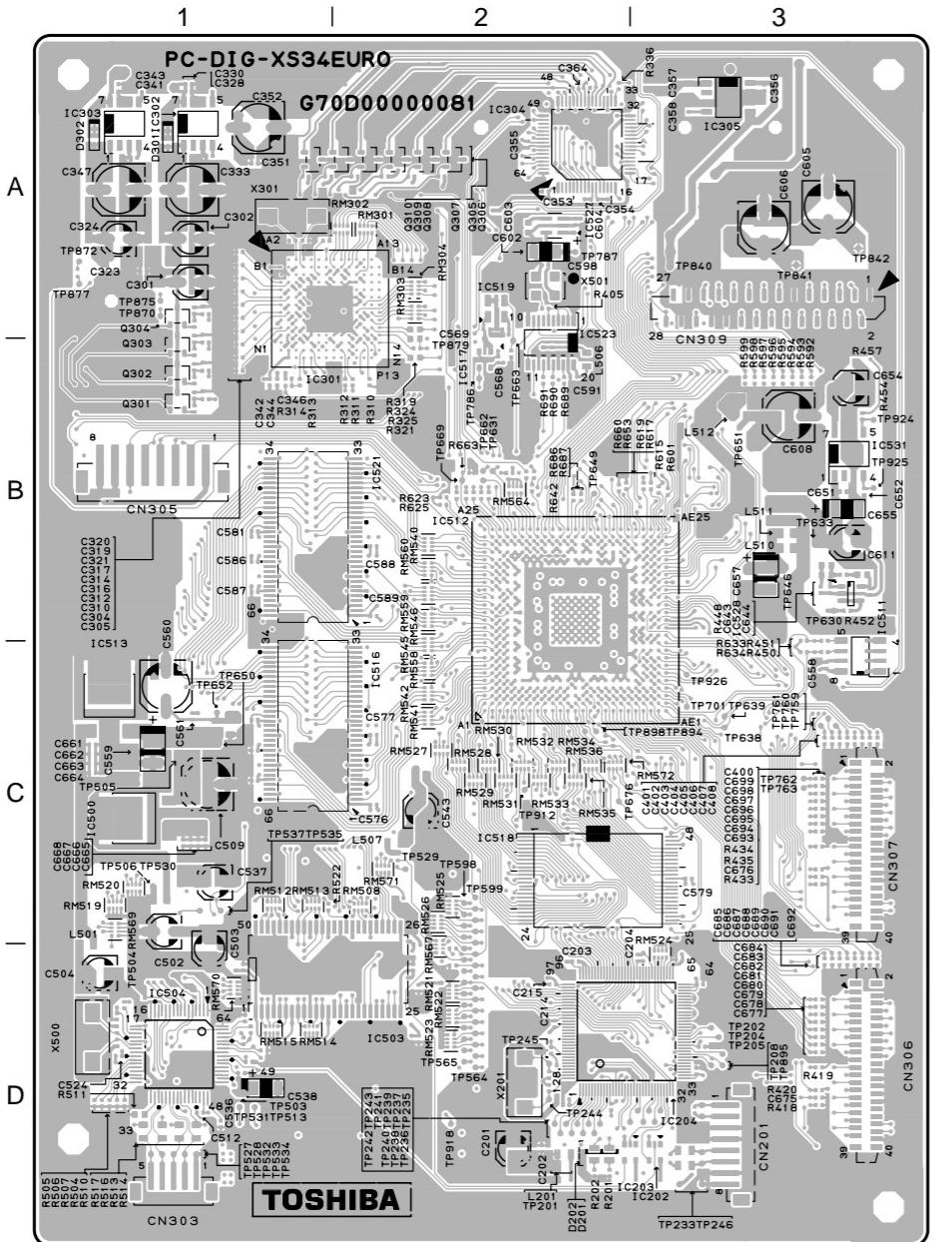


Fig. 3-5-9 EU01 Digital PC Board (Top side)

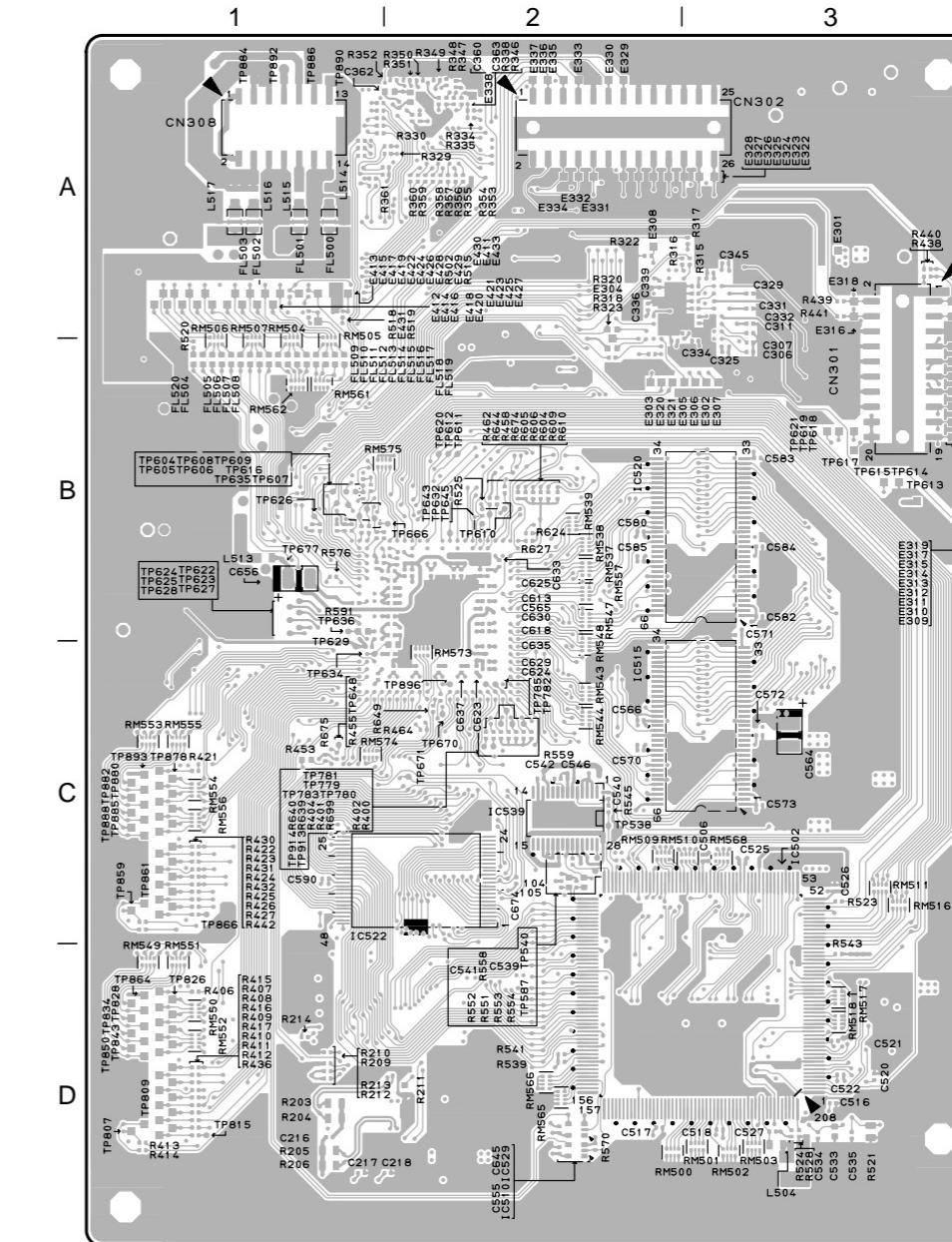


Fig. 3-5-10 EU01 Digital PC Board (Bottom side)

5-6. Mother PC Board



Fig. 3-5-11 EU05 Mother PC Board (Top side)

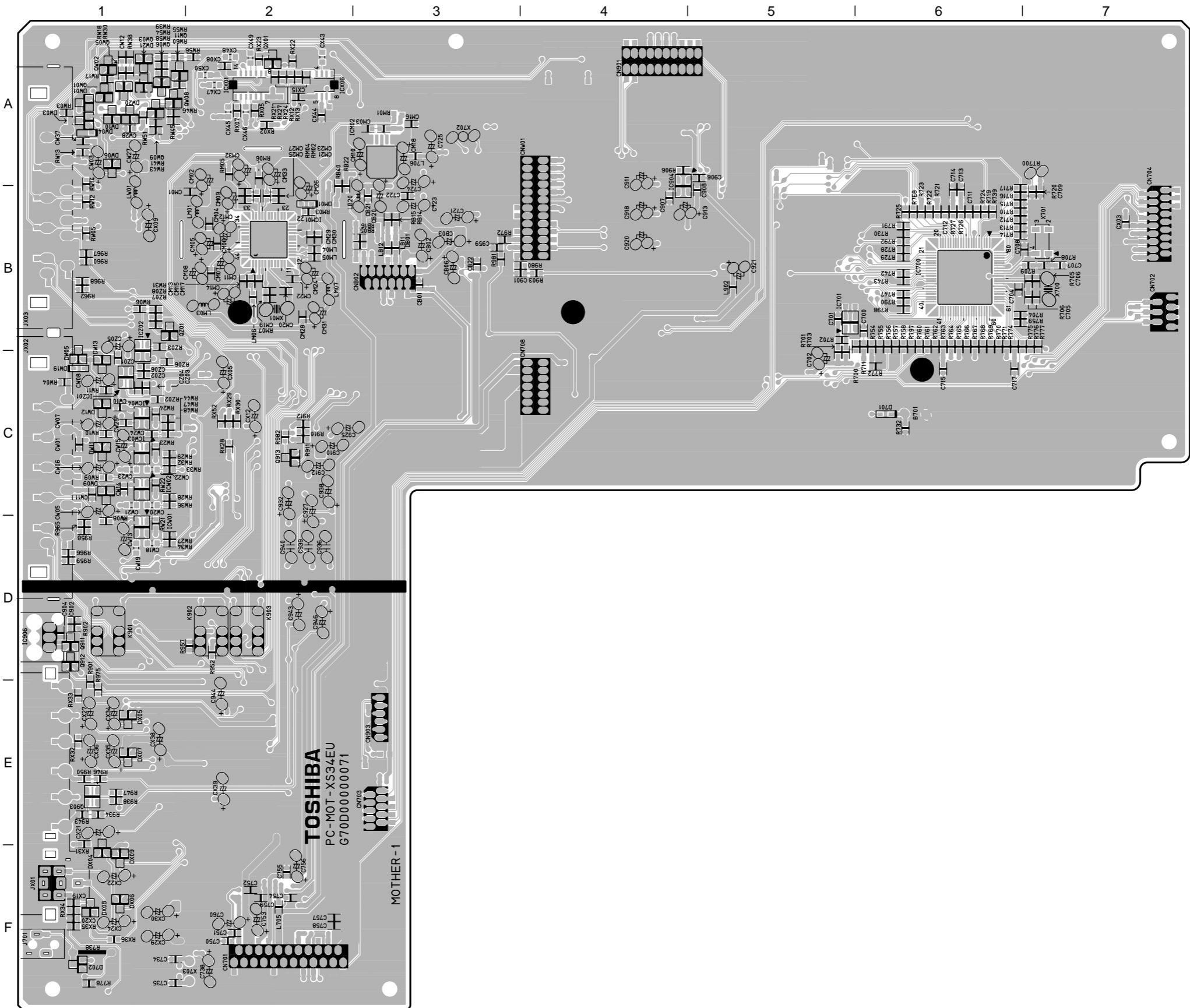


Fig. 3-5-12 EU05 Mother PC Board (Bottom side)